

Annual
Baseline
Assessment of
Choice in
Canada and the
United
States



**Annual Baseline Assessment of Choice in
Canada and the United States (ABACCUS)**
Distributed Energy Financial Group
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Contact

The ABACCUS report is sponsored by companies with a stake in competitive electric markets in North America. The views expressed here are those of the author and do not necessarily represent the position of any sponsoring company. Contact: Nat Treadway, Managing Partner, DEFG, ntreadway@defgllc.com, 713-729-6244, <http://defgllc.com>.



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Executive Summary

Since 2007, the *Annual Baseline Assessment of Choice in Canada and the United States*¹ has scored and ranked the progress of U.S. states and Canadian provinces in their efforts to transform a system of electric utility regulation—economic regulation to set the retail price for the commodity—into a system in which the discipline of market forces establishes value and price for electric service. Changes to laws and rules over the past twenty years have resulted in the development of new market structures for the electric sector. The new framework determines what companies can do when they generate, purchase and sell electricity; how the monopoly power delivery services are regulated; and what companies must do to provide basic service or to protect consumers. About one-third of the states and provinces in North America have taken steps to allow direct retail access to consumers by power producers and energy marketers. These states and provinces have taken somewhat differing paths, often reflecting their different starting points and different goals.

As a result of these reforms, competitive retail energy providers in North America offer new products and services to 17.2 million households in North America, and make sales of electricity to a significant portion (80%-95%) of the commercial, institutional and industrial consumers in the jurisdictions that allow direct retail access. The number of active retail energy providers is growing in many states, and the number of products and services, and number of consumers taking competitive service is rising. There appears to be a sense of determination by retail energy providers over the past several years to expand their presence in the open markets, possibly in response to efforts by regulators to further reform the market rules, reduce barriers to entry and raise public awareness about the opportunities for choice. There also appears to be an improved understanding by retail energy providers about consumer preferences. The number and variety of distinct product offerings is increasing, reflecting consumer preferences and demand, and sorting itself into the emerging natural market segments.

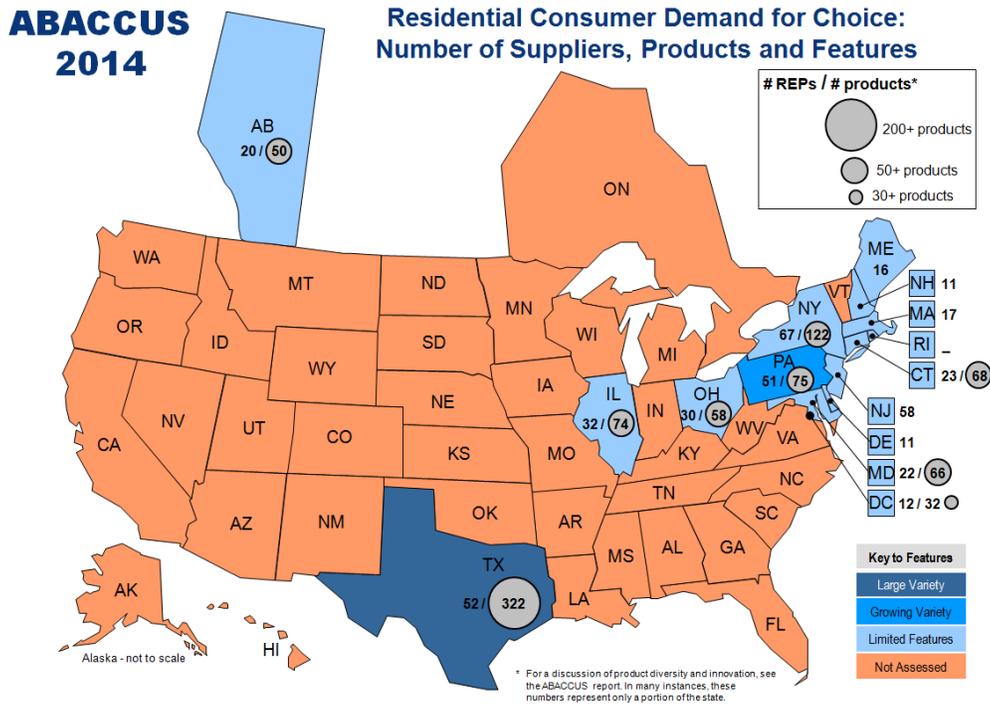
Table ES-1
Residential Customers Taking Competitive Electric Service

Jurisdiction	Customers
Texas	5,854,000
Illinois	3,077,000
Ohio	2,106,000
Pennsylvania	1,877,000
New York	1,389,000
Connecticut	605,000
Alberta	542,000
New Jersey	536,000
Maryland	524,000
Massachusetts	399,000
Maine	214,000

Figure ES-1 displays the states and provinces with significant activity. In October 2013 in Texas, for example, 52 retail energy providers active in the residential market offered up to fifteen different types of electric service for a total of 322 choices displayed on a public website available for residential consumer shopping.

¹ An alternative version of the ABACCUS executive summary is available in presentation format: <http://defglc.com>.

Figure ES-1



According to the ABACCUS scoring methodology, Texas is the competitive residential electricity market leader for the seventh consecutive year. Figure ES-2 and Table ES-2 set forth the ABACCUS scores for residential consumers in 18 jurisdictions.

Figure ES-2

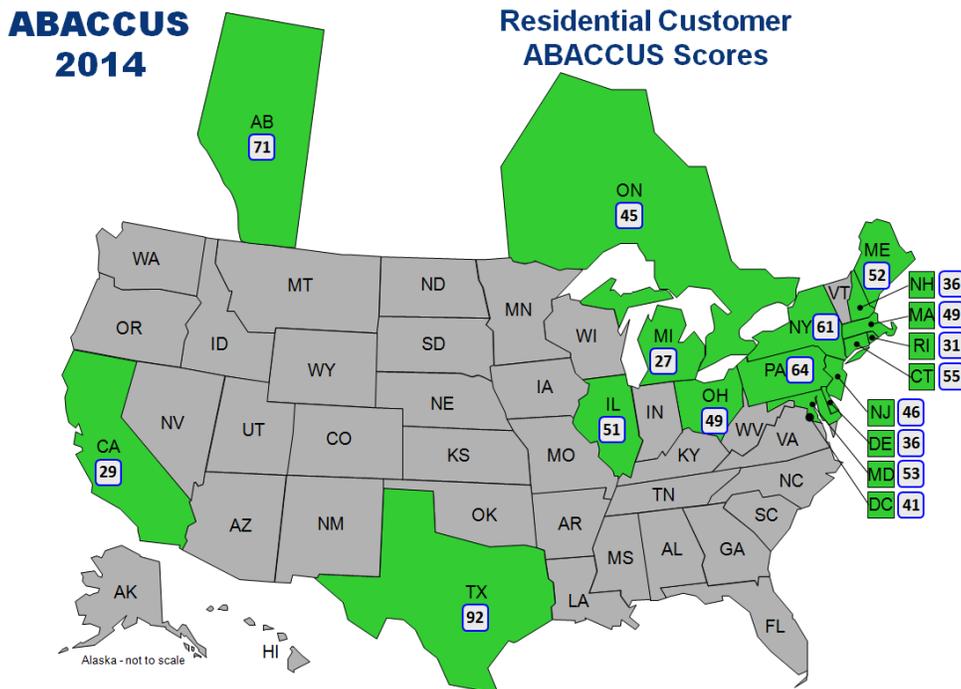


Table ES-2

ABACCUS 2014 Residential Scores and Rank

Jurisdiction	2014 Score	2014 Rank	Prior Rank
Texas	92	1	1
Alberta	71	2	2
Pennsylvania	64	3	3
New York	61	4	4
Connecticut	55	5	5
Maryland	53	6	6
Maine	52	7	9
Illinois	51	8	7
Massachusetts	49	9	11
Ohio	49	9	8
New Jersey	46	11	12
Ontario	45	12	10
District of Columbia	41	13	13
Delaware	36	14	14
New Hampshire	36	14	15
Rhode Island	31	16	16
California	29	17	17
Michigan	27	18	18

Texas remains the market leader in offering opportunities to commercial and industrial (C&I) consumers. Twelve other jurisdictions—Alberta, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, Ohio, and Pennsylvania—have strong ABACCUS scores or have achieved significant levels of market activity and switching.

C&I consumers often negotiate customized energy service solutions and contract terms. The largest consumers are very sophisticated in their business dealings. Their experience allows them to ensure that the contract reflects the values they prefer. These businesses acquire electricity in the same manner they do other goods and services, reflecting their risk tolerance and taking into account their in-house energy management expertise, energy-consuming devices, operational schedule and other factors that affect their business.

Figure ES-2 and Table ES-3 set forth the ABACCUS scores for commercial and industrial consumers in 18 jurisdictions.

Figure ES-3

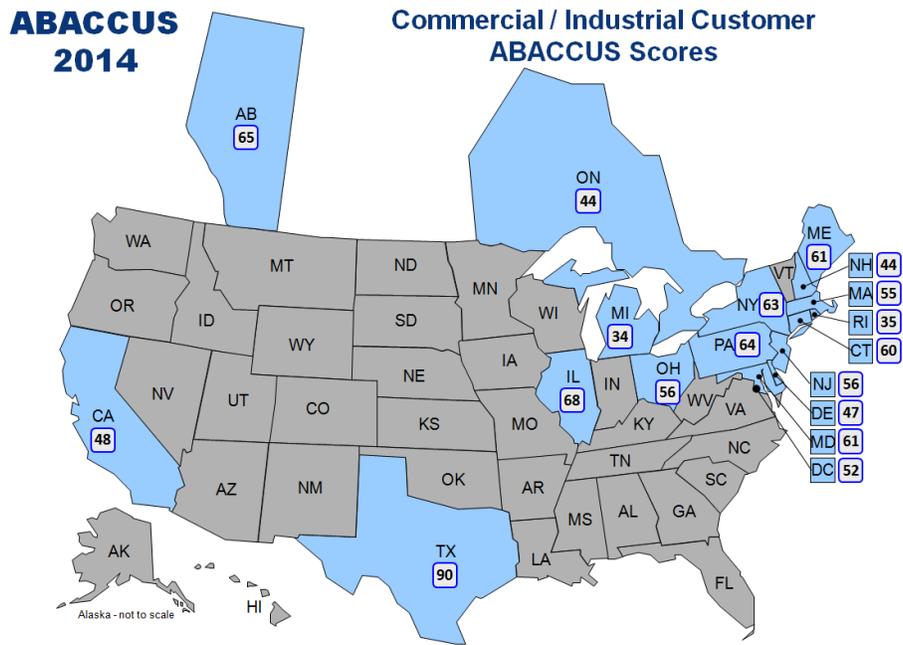


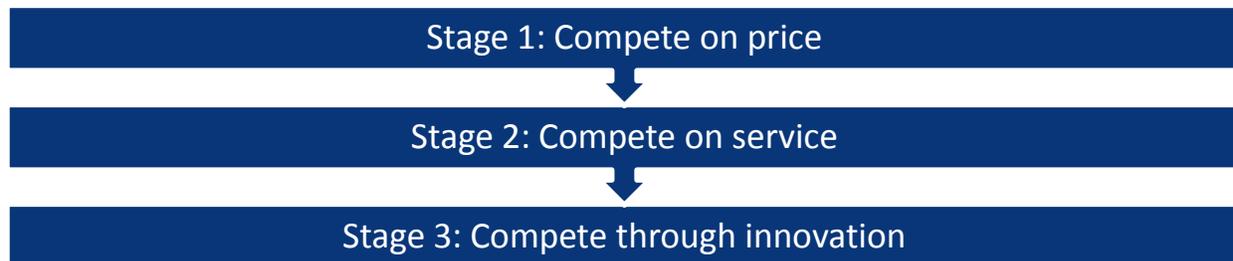
Table ES-3

Commercial and Industrial ABACCUS Scores and Rank

Jurisdiction	2014 Score	2014 Rank	Prior Rank
Texas	90	1	1
Illinois	68	2	2
Alberta	65	3	7
Pennsylvania	64	4	4
New York	63	5	3
Maine	61	6	9
Maryland	61	6	5
Connecticut	60	8	6
New Jersey	56	9	8
Ohio	56	9	11
Massachusetts	55	11	10
District of Columbia	52	12	12
California	48	13	14
Delaware	47	14	13
New Hampshire	44	15	16
Ontario	44	15	15
Rhode Island	35	17	17
Michigan	34	18	18

The process of electric market transformation can be viewed as a three-stage evolution that begins with a change from regulation of electric utilities to a platform that encourages competition among market participants. The nature of the competition begins simply and becomes more sophisticated.

Figure ES-4



In North America, a majority of the restructured electric markets are emerging from Stage 1 because most of the activity has been focused on competition around the commodity price. As they move into Stage 2—competition on service—many more product and service choices will be offered in the market. This process of market transformation is normal, and it will continue along these lines as these states continue to focus on setting the commodity price in cents per kilowatt-hour. People had become used to regulation, electric tariffs, and the cost of the commodity expressed in cents per kilowatt-hour.

To succeed in a competitive electricity market, retail energy providers must be able to effectively acquire and retain customers. Customer engagement and the customer relationship are vital to them. As retail electricity markets mature, we observe a movement from government education programs to retail provider marketing campaigns, and a growing sophistication in consumers with more complex advertisements and messaging. There is increased market segmentation and targeted marketing to align with consumer preferences, increased segmentation to enhance the customer experience and increase satisfaction and enhanced customer engagement to build brand loyalty and increase customer retention.

Retail competition is driving innovation for all customers, and we observe an ever-increasing focus on the customer throughout North America. Consumers in both fully-regulated and restructured electricity markets are demanding lower cost and better service. There is an increase in customer-premises solutions, including distributed renewable energy generation. These factors may set the stage for dramatic reforms in regulation and markets.

There is a good understanding now of the role of the customer in the future electric industry to interact with the grid through demand and price response, energy storage and energy production. There is acceleration of the learning curve with regard to the integration of electric and telecommunications technologies.

There is an appropriate role for government in the transformation of the electric industry. In the early stages of retail electric competition, government can help facilitate consumer awareness and education by focusing on building trust and understanding about new transactions. Customers need to understand how to select a supplier, sign up for power and switch providers. The traditional consumer protections must be updated.

We have found that workable retail electric competition can thrive under a range of market frameworks. Pennsylvania, New York, Illinois and Texas demonstrate there is more than one way to bring choice of energy supplier, service, innovation and lower prices to retail consumers. These states

offer useful best practices. While the non-uniformity of market designs between states can present challenges, these policy and structural variations do not necessarily prevent retail competition. If the required ingredients are in place, retail markets can succeed.

Workable retail electric competition requires unbundled rates and services, supportive billing options, consumer education, consumer protection, a strong policy preference for workable competition, and ongoing monitoring and reform. Consumer-driven innovation and product differentiation should be the goal of restructuring. Innovation indicates a shift from pure commodity sales to a vibrant retail energy services market. Too many electric industry stakeholders have a habit of describing the electric industry in pure commodity terms and that language is limiting and detrimental to reform. The phasing out of default service is the single most important reform that will increase market confidence and participation. The end of “Price-To-Beat” default service in Texas facilitated significant growth in new retail providers and products and services.

Introduction

Since 2007, the *Annual Baseline Assessment of Choice in Canada and the United States*² has scored and ranked the progress of U.S. states and Canadian provinces in their efforts to transform a system of electric utility regulation—economic regulation to set the retail price for the commodity—into a system in which the discipline of market forces establishes value and price for electric services. Changes to laws and rules over the past twenty years have resulted in the development of new market structures for the electric sector. The new framework determines what companies can do when they generate, purchase and sell electricity; how the monopoly power delivery services are regulated; and what the companies must do to provide basic service or to protect consumers. About one-third of the states and provinces in North America have taken steps to allow direct retail access to consumers by power producers and energy marketers. These states and provinces have taken somewhat differing paths, often reflecting their different starting points and different goals.

The ABACCUS report is intended to help policy makers³ in various jurisdictions of the United States and Canada assess their progress in establishing conditions that will facilitate robust retail competition in the electric sector. The ABACCUS methodology is designed to highlight the market structures,⁴ regulatory rules,⁵ and business practices⁶ that facilitate robust competition, and show a path toward market reform.

Public Policy Goals

The ABACCUS report is not intended to judge the relative importance or significance of various public policy goals in each jurisdiction.⁷ Every jurisdiction that has engaged in electric sector reform is assumed to have expressed a preference for competitive markets in the retail sale of electricity. It is assumed that many jurisdictions balance several laudable policy goals at one time, and that at times, retail competition in the electric sector may suffer. In these instances, the goal of a competitive retail electric sector must be considered in light of other public policy goals. Tradeoffs among public policy goals are

² ABACCUS documents are available online: <http://defgllc.com>.

³ “Policy makers” in North America refers to state and provincial legislators, regulatory commissioners and officials in government energy departments, energy research agencies and energy commissions. In both Canada and the United States, federal officials have not yet created a coherent national policy with regard to retail electric competition.

⁴ “Market structures” refers here to the laws that set forth the fundamental rights and responsibilities of the market participants. For example, in creating or transforming an electric market structure, we determine who can and cannot generate electricity; who can and cannot sell electricity; whether there will be an independent system operator for the network; how the stakeholders interact with an ISO; what is a regulated, monopoly service; who provides regulated service and how regulation is conducted; etc.

⁵ “Regulatory rules” refers here to the administration of the law. For example, there may be a need for administrative oversight of “default service” (AKA as basic or standard service) to ensure a smooth transition from regulation of vertically-integrated electric utilities to competition retail service.

⁶ “Business practices” refers here to the day-to-day activities of the stakeholders, including the wires utilities that interact with competitive market participants. In several jurisdictions, a “light regulation” approach may be practiced, allowing parties to work out reasonable day-to-day business practices, and addressing complaints, rather than attempting to dictate all the rules necessary for these functions.

⁷ Public policy goals are discussed in greater detail in Appendix C.

part of everyday life. For example, the following goals—which are prominent in certain jurisdictions—are intertwined with the goal of retail electric competition.

- Increased production from renewable resources
- Increased end-use energy efficiency
- Reduced carbon emissions
- Increased local jobs and infrastructure investments (power plants, transmission and distribution, retail, etc.)
- Ensure that vulnerable consumers have access to stable, regulated retail electricity prices

Depending upon the approach taken to achieve these and other public policy goals, the impact on retail competitive markets may be minimal. The specific programs and activities necessary to achieve these may complement the goal of retail electric competition, or it may interfere with it.

Since the ABACCUS report cannot fully assess the nuances and differences of each state, it attempts to take what we have learned about competition in the electric sector over the past several decades, and set forth the lessons learned and the best practices to achieve retail electricity competition.

The ABACCUS report is intended to achieve the following:

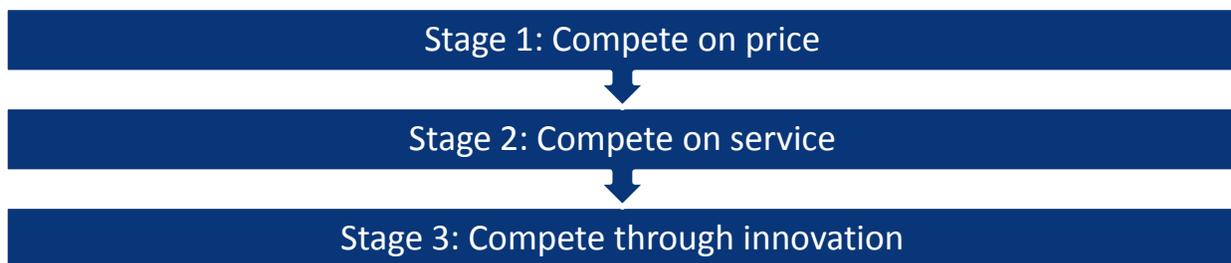
- Identify the government policies, market structures and business practices that support a vibrant retail electricity market and individual consumer choice
- Identify best regulatory practices for the regulated electricity network so that utilities can support a vibrant retail electricity market
- Provide useful information to policy makers and retail electricity market stakeholders in U.S. states and Canadian provinces
- Identify potential improvement areas and suggest solutions that U.S. states and Canadian provinces may consider implementing
- Provide information that will enable other U.S. states and Canadian provinces to better consider the market structures, business practices and government policies that provide a good foundation for the future successful implementation of individual consumer choice in electricity markets

Market Evolution

Electric sector restructuring begins a process of market transformation. Regulated monopoly service with its cost-of-service studies, cost allocation and rate design results in the tariff book. With retail electric competition, the tariff book is replaced by offers for the commodity at various prices. Initial price competition leads to differentiation of the products and services associated with the commodity. That is, pure price competition is replaced by competition based on services. In the electric markets, these services can relate to the terms and conditions of service, the nature of risk management, and the options regarding billing and payment, among others. Competition based on service will eventually lead to further market innovation. To fully anticipate future innovations is impossible. Innovation may come from within the industry, or it may involve the expertise from another industry that brings a transformative technology or idea to the retail electric sector.

The process of electric market transformation can be viewed as a three-stage evolution that begins with a change from regulation of electric utilities to a platform that encourages competition among market participants.⁸ The nature of the competition begins simply and becomes more sophisticated.

Figure 1



In North America, a majority of the restructured electric markets are emerging from Stage 1 because most of the activity has been focused on competition around the commodity price. As they move into Stage 2—competition on service—many more product and service choices will enter the market. This process of market transformation is normal, and it will continue along these lines as these states continue to focus on setting the commodity price in cents per kilowatt-hour. People are used to regulation, electric tariffs, and the cost of the commodity expressed in cents per kilowatt-hour.

As will be seen in the comments below, states and provinces can accelerate the market transformation process by getting out of the price-setting business. Default service is problematic for a number of reasons, as explained in Appendix C, Policy Issues in Retail Electricity Competition. In addition, a singular focus on the price of the commodity maintains the notion that there is only one way to value electric service.

As product and service differentiation progresses, the meaning of commodity price as a sole measure of value will erode. Consumer preferences vary, and a highly-differentiated retail market will serve that diversity well.

Preferences and Choices

What do people want with regard to electricity, and therefore what services do they value? You do not have to spend much time reading about the electric sector to understand that most people value: 1) low prices, 2) high reliability, and 3) good customer service. A segment of the population wants the electric commodity delivered at the lowest possible cost; others place a premium on the reliability of service and power quality; and others want great customer service, including responsive call centers, outage alerts, the status of service restoration, etc. While these are the dominant preferences, other people may prefer the lowest possible emissions and worry less about the cost. Many consumers want a mix of these things: low cost, high reliability, great service and low emissions. Other consumers care a great deal about how they pay for electricity and prefer convenient transactions with their provider.

Consumer preferences have an impact on public policy making. Just when a regulatory commissioner thinks s/he has appropriately addressed consumer concerns relating to reliability and power quality

⁸ Based on concepts presented by Steven Murray, President Residential Business, Direct Energy, at the Arizona Energy Conference, Panel on Retail Access, March 22, 2013, Phoenix, Arizona.

(e.g., certifying and ensuring utility cost recovery for infrastructure investments that enhance reliability and power quality), other cost-conscious consumers may complain about the pending rate increase. In other instances, consumers who care about the source of power or the type of fuel may express a preference for renewable resources over reliability. Others may favor the low unit-energy cost of a major new fossil-fuel power plant over the goal of lower emissions. Some consumers prefer independence and would like to be off the grid, or want the ability to operate off grid when there are reliability issues due to a storm or unexpected outage.

In each instance, there are questions about responsibility for costs approved by the regulatory authority. Who pays for grid investments? For renewable power investments? For an enhanced call center? For the new billing system? Each value-based preference imposes costs on others. North Americans are comfortable paying for the items that they prefer, and they would like a free ride when they happen to use a small part of a system that is not essential to them or does not align with their preferences. Almost by definition, a system of regulation is designed to satisfy and balance many objectives, and it may fall short on other objectives. Even when a balance is achieved through excellent regulatory practices, good decision-making and efficient execution, there is still someone who would criticize the outcome and its costs.

Consumers are not monolithic in their preferences. DEFG recently sponsored a consumer survey on time-based pricing options. We asked 1,000 energy consumers in the U.S., “Which phrase best describes your attitude towards your personal energy consumption?” We provided five randomly-listed choices:

- “I am most concerned that my utility bill is as low as possible”
- “I am most concerned that my utility bill remains as predictable as possible”
- “I am most concerned that I have a secure and reliable supply of electricity”
- “I am most concerned that my electricity use is as environmentally responsible as possible”
- “I rarely think about electricity”

The responses displayed below were typical, and demonstrate that there is a mix of consumer priorities. While “low utility bill” was preferred, fewer than one-half of respondents selected it. People’s preferences and attitudes vary more than is commonly recognized.

Table 1
Phrase That Best Describes Attitude Towards Personal Energy Consumption⁹

	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>18-54</u>	<u>55+</u>	<u>Own</u>	<u>Rent</u>
Total Respondents	(1,000)	(491)	(509)	(717)	(283)	(504)	(381)
	%	%	%	%	%	%	%
I am most concerned that my utility bill is as low as possible	44	47	42	45	42	46	43
I am most concerned that my utility bill remains as predictable as possible	17	17	18	18	15	15	20
I am most concerned that I have a secure and reliable supply of electricity	15	15	16	13	21	16	15
I am most concerned that my electricity use is as environmentally responsible as possible	12	13	12	12	12	14	11
I rarely think about electricity	11	9	12	11	10	8	11

⁹ EcoPinion Consumer Survey Report No. 17, “Consumer Preferences and the Elusive Magic of Dynamic Pricing,” Distributed Energy Financial Group LLC, April 2013, p. 13. Available on: <http://defglc.com/>

Consumer choice can mitigate some of the problems of central decision making by allowing markets to develop, with the expectation that the competitive offers will include a diverse set of options to satisfy our diverse consumer preferences. Rather than a one-size-fits-all approach or a government-mandated retail product, a competitive market is comprised of companies that offer a range of products and services. Consumers choose, and pay for, the options that best satisfy their preferences. There are compromises to be made with respect to the regulated (monopoly wires) components of the system. However, fewer regulated products and services will result in fewer shared costs and—one would hope—fewer arguments over the cost of service and its allocation in regulatory proceedings.

Different people value things differently! That simple statement provides one reason that market transactions are an efficient mechanism for the allocation of services and resources. Markets serve this complexity well. That statement also gives insight into why there is disagreement over “what works best” in writing the market rules for the electric sector. There are disagreements because *different people value things differently* and therefore reach different conclusions when they review the same data.

There is agreement that very large electricity consumers understand electricity, know what they want and know how to get it. There is an assumption—inappropriate, we contend—that small consumers do not understand electricity and do not know how to purchase it. Too many electric industry stakeholders have a habit of describing the electric industry in commodity terms. In fact, the language of electric commodity markets is limiting and detrimental to the reform of retail electricity markets. There is an assumption that consumers just want the electric commodity, not the end-use services that require energy. Thus, there is an emphasis on insulating small consumers from competition (and the robust capabilities of commodity markets), rather than on expanding consumer choices and increasing the competitiveness of the market.

Small consumers are not experts in bulk power or commodity markets—nor do they need to be! Small consumers have a great deal of insight about their own preferences for electric service. Small consumers are sophisticated retail purchasers and they understand how they use energy-consuming end-use devices and what they want to do with each appliance. This report suggests that policy makers could place much more confidence in the decision-making capabilities of small consumers. By emphasizing individual consumer choice and individual responsibility, public policies could facilitate product differentiation, technological innovation and the development of new retail energy services.

ABACCUS Methodology and Measures of Performance

Price and quality comparisons are an essential feature of a competitive market. Comparisons help us to make sense of our complex world. We rely on standards, ratings and assessments to make decisions about everything from our choices for restaurants or hotels, purchases of new appliances, the selection of cars, or the selection of local services. A similar process occurs when we assess public and quasi-public services, including local public school districts, the quality of police and fire service, or roadway maintenance—each of which may influence our selection of a neighborhood when buying a home or relocating for a job. In each instance, we seek better service at a lower cost, and we rely on ratings by independent agencies. Both competitive markets and government services perform better when consumers have information about the quality and cost of the service.

Even after some industry facts are gathered, a variety of perspectives remains about how to interpret these data. In this regard, assessing the electric industry is similar to assessing other consumer services. Reasonable people can disagree. This report cannot resolve these different perspectives, but we presents useful information.

A hallmark of the ABACCUS methodology is the breadth of the issues explored. ABACCUS presumes that retail electricity markets cannot be assessed in terms of one metric, such as the average price of the electric commodity. Therefore, ABACCUS relies on 49 metrics—referred to as “attributes”—to assess each jurisdiction. Some of these attributes apply to residential consumers and others to commercial and industrial consumers. Many attributes apply to both.

The U.S. states and Canadian provinces are social science laboratories for assessing performance in the electric sector. That is, we can observe and track the different market structure, regulations and policies; then we can create metrics to track performance; finally, through scoring, we can assess which jurisdictions have been the most successful.

ABACCUS provides a framework for comparing many attributes and qualities of electricity markets. The goal of this report is to assess the progress of U.S. states and Canadian provinces toward achieving workable competition in retail electricity markets. The report focuses on comparisons among the various electric industry structures in North America, particularly the design and implementation of consumer choice (direct access by retail energy providers to retail consumers). Comparisons are offered at the state/provincial level in an attempt to sort out what works best, and what can be improved.

The ABACCUS scores and rankings are based on:

- Market structure, relating to the rights and responsibilities of the market participants
- Default service,¹⁰ relating to the design of the regulated retail electric service that is available during a transition period, and the impact of default service on competitive retail markets
- Transactions,¹¹ relating to the day-to-day interactions where market participants buy and sell electricity and conduct business with one another
- Facilitation,¹² relating to policies and rules that encourage retail energy providers as they interact with retail consumers and T&D utilities
- Performance,¹³ relating to outcomes which indicate whether the market has performed well

The ABACCUS assessment methodology was developed over several years through a collaborative effort among retail energy providers and representatives from state regulatory commissions. The ABACCUS methodology relies on data from each market to score the state or province. The resulting scores and rankings are set forth below. Appendix E contain a detailed description of the ABACCUS methodology.

¹⁰ Default service is discussed in greater detail in Appendix C.

¹¹ Transactions include whether a customer can switch providers whenever s/he wants to; whether retail energy providers have access to customer lists for marketing; who keeps track of customer switching details; etc.

¹² Facilitation considers such issues as whether the state/provincial has created a web platform to allow easy price comparisons; whether the jurisdiction encourages investments in on-site generation; whether advanced metering infrastructure has been installed; etc.

¹³ Performance is assessed through the number of active retail electric providers; the number of product and service choices; the percentage of customers that have switched to a competitive energy provider; etc.

Residential Consumer Findings

Residential electricity choice began in the late 1990s with great anticipation and some early successes in several states. However, the California market problems during 2000-01 brought uncertainty to retail and wholesale markets and to policy making. Several states that were on track to restructure the retail market changed course and backtracked. Many pundits were critical of markets and skeptical of the ability of residential consumers to benefit from electricity restructuring.

In 2008, rising fuel prices resulted in what was perceived as high market prices for electricity. Given the efficiency of the market place, retail prices increased for residential electricity service in several states with competitive retail electric markets. Concerns rose, and a number of states adopted policies that controlled the regulated default service price. Administrative pricing interventions discouraged the participation of new retail energy providers. As a result, the participation of residential customers in retail choice programs declined after its initial rise in several states. Perceptions around mass market participation in retail access states were mixed.

A much more positive picture has emerged during the past five years. Prices have fallen, and the electricity choices available to mass market consumers have never been greater.

Competitive retail energy providers in North America offer products and services to 17.2 million households in North America. The number of retail energy providers, number of products and services and number of consumers taking competitive service is rising. There appears to be a sense of determination by retail energy providers over the past several years to expand their presence in the open markets, possibly in response to efforts by regulators to further reform the market rules, reduce barriers to entry and raise public awareness about the opportunities for choice. There also appears to be an improved understanding by retail energy providers about consumer preferences. The number and variety of distinct product offerings is increasing, reflecting consumer preferences and demand, and sorting itself into the emerging natural market segments.

Ten U.S. states and one Canadian province each have more than 200,000 residential customers participating in competitive retail electricity markets by switching to a competitive power supplier.

Table 2
Residential Customers Taking Competitive Electric Service

Jurisdiction	Customers
Texas	5,854,000
Illinois	3,077,000
Ohio	2,106,000
Pennsylvania	1,877,000
New York	1,389,000
Connecticut	605,000
Alberta	542,000
New Jersey	536,000
Maryland	524,000
Massachusetts	399,000
Maine	214,000

In Alberta, Connecticut, Maine, Maryland, New Jersey, New York, Pennsylvania and Texas, the direct market participation of individual consumers has been the key factor, while in Illinois, Massachusetts & Ohio, municipal aggregation¹⁴ has been important.

Examined in another way, twelve states, provinces and districts have achieved 14% or more switching away from the incumbent provider in the residential sector. These include Alberta, Connecticut, District of Columbia, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, Ohio, Pennsylvania and Texas.

Table 3
Residential Customer Switching to Competitive Electric Service¹⁵

Jurisdiction	Residential
Texas ¹⁶	100.0%
Illinois ¹⁷	68.5%
Ohio ¹⁷	50.2%
Connecticut	43.5%
Alberta	40.0%
Pennsylvania	37.7%
Maine	28.0%
Maryland	26.1%
New York	24.0%
Massachusetts ¹⁷	16.9%
New Jersey	16.0%
District of Columbia	14.6%

Appendix D provides state-by-state detail with regard to switching percent and number of customers.

Residential Consumers' Desired Product Features

Residential consumers can choose from an ever-increasing number of diverse products, and this is an indication of increased consumer participation and robust competition. Consumer demand drives retail markets to reduce costs, increase product and service choices, and innovate. People shop for the features they value most, and the array of different products is significant.

Many new products and services make use of new investments in infrastructure. Advanced meters and the smart grid are still underutilized in certain places, but this is changing as consumers select products

¹⁴ Municipal aggregation is discussed in more detail in Appendix C.

¹⁵ Different jurisdictions use different definitions for switching; therefore, these data are not strictly comparable. Switching refers to net movement away from default service. In many states, default service is a regulated rate provided by the incumbent utility. See Appendix C for details.

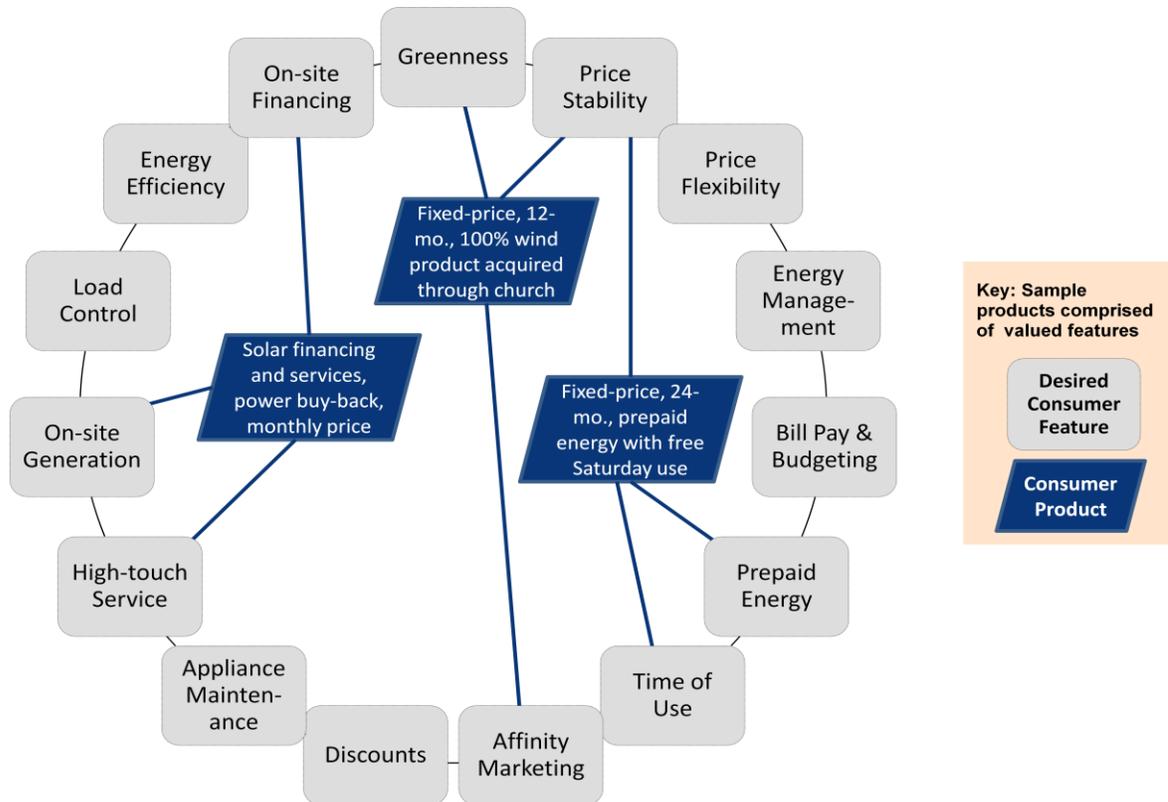
¹⁶ A September 2013 ERCOT report found that 88.6% of the eligible residential market had observably chosen a retailer via ERCOT transactions. Many others have chosen plans with the former incumbent. As of November 2013, 61% of residential customers had left the traditional incumbent provider.

¹⁷ Municipal aggregation is significant in Illinois, Massachusetts and Ohio.

that require close-to-real-time data on usage, rapid switching between suppliers, settlement on short periods of time using actual consumer usage (not load shapes for a typical consumer), and time-differentiated pricing.

Not all choices are technology dependent. The following graphic displays fifteen sample “desired consumer features.” This conceptual framework is an illustration, and the categories are not intended to be definitive. Consumer demand for product and service features is evolving as consumer gain experience, and retail energy providers are learning from, and responding to, residential consumers.

Figure 2



In this diagram, three consumer products appear as blue trapezoids. These represent hypothetical combinations of desired consumer features that are bundled into a branded product. For example, if someone switches to a provider that uses affinity marketing, the consumer may sign up through their church, and benefit from knowing that the REP provides an incentive to the church. The product could also include a 12-month, fixed-price product (that is, stable pricing) and be guaranteed to use 100% wind energy (green power; renewable resource investments). These features are valued by the consumer and may involve a premium above other products that focus on minimum cost.

Two other examples represent a solar-on-the-roof option, and a prepaid, fixed-price, free-Saturdays product. The former product might appeal to an upscale customer, concerned with the environment, and interested in new technologies. The latter product might appeal to someone interested in shifting energy use to Saturdays for a discount (e.g., free power for their dishwashing, clothes washing, clothes drying, vacuum cleaning and Saturday projects with power tools).

All three products include a price premium that consumers readily pay as compared to a month-to-month price that incentivizes more frequent price monitoring. Depending on how consumers value their time, the desirability to monitor the market, and the potential volatility of a variable-price product, these “price premiums” may not be premiums at all. It depends on individual preferences.

The products described in the preceding paragraphs are not available in all jurisdictions. In many markets, the choices available to residential consumers include green power, month-to-month rates, fixed-price contracts for terms of three months to five years, and a variety of billing and payment options.

In a few markets, such as Texas and Pennsylvania, bundled service options also can include maintenance of major appliances, in-home energy management devices, advanced thermostats, and bill payment options. Texas is represented in the diagram above which includes competitive prepaid energy, several creative time-of-use choices and several distributed generation options. Prepaid energy, in particular, is quite popular in Texas where the market offers 16 prepay plans from 12 REPs. Certain REPs offer prepaid energy consumers in Texas access to daily usage and account balance updates via text or email.¹⁸ Many residential consumers like the convenience of prepayment, the end of monthly utility bills, no deposit service initiation, and the flexibility of paying small sums throughout the month.

Residential Consumers’ Demand for Choice

The ABACCUS methodology assesses several aspects of choice and assigns weight to the measure in the overall scoring. These include: 1) Number of REPs Making Residential Offers (4% weight), 2) Number of Residential Offers (2% weight), and 3) Types of Residential Offers (1% weight).

The growing number of suppliers, product choices and types of products in competitive electric markets shows the impact of consumer demand on the market choices. The more successful markets have an increasing number of new entrants, offering an increasingly diverse array of products and product choices. Existing REPs are adding new products and reforming or dropping old ones that are not popular. In order to maintain or grow market share, the REPs respond to consumer preferences and the demand for new choices.

The following map (Figure 3) displays the numbers of active suppliers, product choices and types of products in the most successful portions of the states/provinces assessed. The diversity of product types is greatest in Texas.

¹⁸ DEFG manages the Prepay Energy Working Group, an industry group created in 2010 to explore prepaid energy issues including the energy conservation impacts, business/operational concerns, consumer behavior and regulatory barriers. Surveys and white papers about prepayment are available through the DEFG website. <http://defgllc.com/tag/prepaid/>.

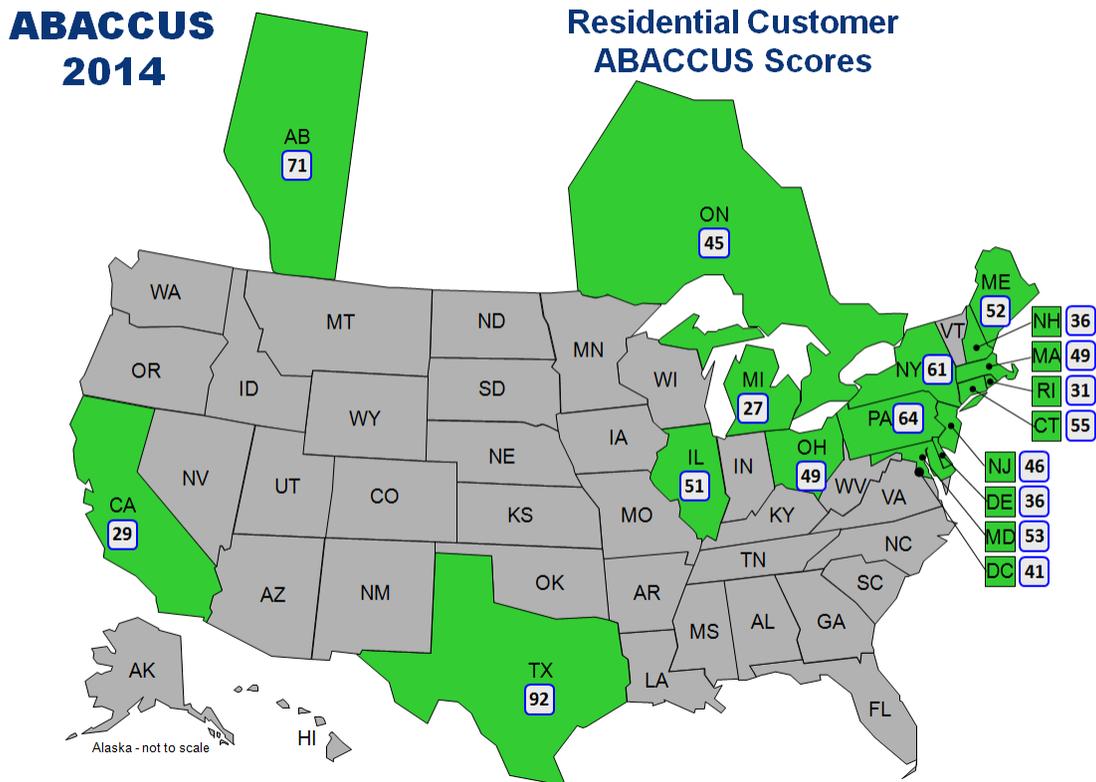
Table 4
ABACCUS 2014 Residential Scores and Rank

Jurisdiction	2014 Score	2014 Rank	Prior Rank
Texas	92	1	1
Alberta	71	2	2
Pennsylvania	64	3	3
New York	61	4	4
Connecticut	55	5	5
Maryland	53	6	6
Maine	52	7	9
Illinois	51	8	7
Massachusetts	49	9	11
Ohio	49	9	8
New Jersey	46	11	12
Ontario	45	12	10
District of Columbia	41	13	13
Delaware	36	14	14
New Hampshire	36	14	15
Rhode Island	31	16	16
California	29	17	17
Michigan	27	18	18

Residential Sector Innovations

Residential consumers in competitive areas can exercise significant choice and control over their energy usage, billing and cost. Residential consumers can choose contract periods of one month, or they can lock in today's prices for two, three and even five years. These consumers can exercise a preference for the source of their power by selecting renewable (green) power generated with wind turbines, hydroelectric facilities or photovoltaic cells. In some states, consumers can bundle a heating and cooling equipment check-up with their electric service. Other choices include enrolling in rewards and cash-back programs, energy efficiency programs, demand response and time-of-use pricing to name a few. Additionally, as the advanced metering infrastructure continues taking off, residential markets are beginning to open up to include in-home displays and control devices that are coordinated with the smart grid investments.

Figure 4



Small consumers are becoming more and more sophisticated in shopping for electric service. In selecting the lowest cost, some residential consumers may choose a pricing plan that changes every month in order to get the lowest near-term price. Others pay an appropriate premium because they prefer to lock in a price for a period of a year or longer. In some instances, there is no premium because the REP is interested in the long-term customer relationship. “Low cost” is a determination that is made by each consumer, because individuals know how they want to manage their time and resources.

Small consumers are also demanding energy-efficient appliances and devices, green building technologies, and other actions to help protect the environment. The beauty of the competitive market is the ability of energy suppliers to rapidly respond to consumer preferences. Energy suppliers are able to bundle new energy services and products with non-energy offers and they are willing to bear the financial risk of such offerings.

Classic Consumer Price-Risk Tradeoff

1. Behavior of a Consumer Who is Risk-Averse

- Selects a fixed-price contract at 10 cents/kWh for two years
- Takes price certainty and manages energy usage
- After two years, the total of 24 bills + conservation investments on the consumer's premises + time spent to manage costs - savings of reduced usage + intangibles = consumer's total cost

2. Behavior of a Consumer Who is a Price-Risk Manager

- Selects an 8 cents/kWh with month-to-month contract
- Accepts price risk and manages energy contracting
- After two years, the total of 24 bills + time to monitor market prices + time to switch providers/offers + time to manage contracts + intangibles = consumer's total cost

Conclusion

- Comparing 8 cent electricity with 10 cent electricity is not a trivial task, and the lowest cost depends on buyer preferences and other factors
- Consumers are exceptionally well informed about their own tolerance for risk, the value of their own leisure time and their own discount rate for return on investments
- Consumers' choices regarding energy contract length promotes economic efficiency by aligning the retail energy provider's resource mix and management expertise with the consumers' preferences

The following list represents a few of the residential products offered in the market.

- Bounce Energy offers a [mobile app](#) so that customers can view and pay bills, sign up for auto bill pay, manage payment options, contact customer support and get energy savings tips and insights.
- Constellation Energy offer the "Power Circle" in New Jersey. Customers refer 10 people and get free power. Constellation views customers as educating consumers where consumer choice is new, as distinct from multi-level marketing where someone is an agent or broker.²⁰
- Direct Energy offers [Power-To-GoSM](#) prepaid electricity to residential Texans with a new payment channel, pay as you wish, and daily text updates.
- Direct Energy offers Comfort Club™ to residential Pennsylvanians to bundle electricity with heating and air conditioning tune ups and safety checks.
- Direct Energy offers [Free Power Day](#) or Free Power Nights of Half-off Weekend pricing plans to residential customers in Pennsylvania.
- Green Mountain Energy offers a [Renewable Rewards® Buy-Back Program](#): qualifying renewable energy generation facilities receive credit for the excess energy they produce.

²⁰ "Constellation Energy trades free power for customer referrals," Restructuring Today, September 18, 2012.

- Green Mountain Energy offers a 100% wind electricity plan exclusively for electric vehicle drivers ([special rate on pollution-free power for car and home](#)).
- TXU Energy markets a residential [Solar Leasing Program](#) that includes full service system design, financing, equipment, installation, insurance, monitoring, warranty and guaranteed solar power production.
- TXU Energy offers [MyEnergy DashboardSM](#) an online tool that helps residential consumers examine how and when they use electricity and how to reduce energy consumption.
- TXU Energy has teamed up with the City of McKinney to [Support Electric Vehicle Infrastructure](#) and installed the first [eVgoSM network charging location](#).

Commercial and Industrial Consumer Findings

Commercial and Industrial Demand for Choice

The electricity choices for individual consumers have never been greater in North America, and that is particularly true for large commercial and industrial (C&I) consumers. The choices include access to competitive energy suppliers, access to new technologies, access to wholesale markets and access to on-site options such as storage and self-generation.

Large C&I consumers were some of the early beneficiaries of retail electricity choice because they were already knowledgeable about how to contract for power and the associated services. Large consumers must determine how best to manage a variety of inputs into their industrial processes and business operations, and electricity is just one of many important and complex issues that they deal with every day. Large customers were the first to take advantage of the ability to combine desirable services—such as credit terms or energy data analysis—with commodity purchases of electricity. Business needs vary, facility configurations vary, and management skills and preferences vary.

It is intuitively obvious that a competitive retail electric market is best at satisfying extremely diverse consumer needs and preferences. The “one-size-fits-all” regulatory model does not serve C&I consumers very well. Competition is a mainstay of the global economy precisely because competitive service providers respond to consumers who shop. Choosing among a variety of products, services and suppliers is routine for large consumers, and the introduction of retail choice to the electric industry is spurring innovation and efficiency as businesses think of electricity pricing as an input to be managed, rather than as a cost with prices set by a regulator.

Commercial and industrial consumers in more than a dozen states and provinces have access to numerous retail power suppliers who offer options that vary with respect to contract term, price, risk, and other factors. There are opportunities for fixed price contracts, prices that vary according to a published index, formulas that combine several attributes and prices that vary by quarter-hour (or ten minutes or minute) with the wholesale market price. Demand and price-responsive consumers can participate in wholesale markets for capacity, energy and ancillary services, including reserve markets. Each business consumer can decide whether to take advantage of these market opportunities, or whether to reduce their exposure to market price volatility. Their choice depends on their unique industrial process or the configurations of their building, their willingness to respond, and the technical feasibility of the potential response. Commercial and institutional consumers have seen that building management systems are becoming more sophisticated to facilitate more real-time decision making. Large commercial and industrial consumers are also able to invest in backup generation, on-site energy storage, and end-use load control to participate in power markets, manage usage and lower costs.

A huge variety of electricity products and services is available to large consumers. The opportunities are nearly limitless. Current offerings allow C&I consumers to choose among the following:

- Power contracts to lock in prices over one or several years
- Power prices indexed to a commodity price that is critical to customer’s operations
- Prices that change hourly or more frequently so the consumer can assume the price risk if that serves its business
- Customized billing and credit terms

- Blended products to provide a portfolio of supplies to reduce risk
- Green power that is backed by production from renewable resources
- Sustainable energy paths that are low-carbon or carbon-neutral
- LEED certification by procuring 20% of consumption as green or through the acquisition of Renewable Energy Credits, bundled with other energy products
- Bundled equipment maintenance costs with their electric service
- Retail supplier-provided services for energy efficiency, and/or energy management devices, usage monitoring and optimization of energy use for their production processes
- Combined heat and power production and contracts for on-site power development
- Demand response projects; the ability to curtail usage and receive compensation for peak capacity, operating reserves and regulation service in organized wholesale markets

Commercial and Industrial Sector Innovations

Some options may require the installation of new equipment and may be part of a significant re-engineering of an industrial process. Management of these cost and revenue streams can be complex. Many C&I customers have also installed new equipment on-site to increase power quality and reliability. The competitive market allows access to specialized products and services in a timely fashion.

Here are some of the recent C&I product offerings or changes to existing offerings.

- ConEdison Solutions offers “energy optimization” that allows [C&I customers](#) to benefit from shifts in commodity prices by turning their energy management and curtailment programs into a revenue stream.
- Constellation Energy offers [Virtuwatt™](#), a load control system allowing C&I customers to participate in DR incentives, take advantage of price responsive offerings, and easily modify usage patterns to avoid costs.
- Constellation Energy offers "Efficiency Made Easy: Innovation in Financing" to business customers in the Mid-Atlantic, New York Metro and New England. It includes 3-year fixed price electricity agreement and high-impact energy efficiency measures. The consumer maintains his current total energy cost over the term of agreement and consumption is reduced through efficiency measures financed by Constellation. At end of agreement, customer retains 100% of energy efficiency savings.
- Green Mountain Energy offer on-bill financing to its [small business consumers](#) who want to install the EnTouch energy management system to measure, monitor and manage building energy use.
- PPL EnergyPlus offers an online billing platform that puts customer hourly load and pricing information at the fingertips of its [C&I customers](#).
- TXU Energy’s [MyAccount](#) is a free, fast and convenient web-based service that helps business customers understand their electricity consumption patterns and savings opportunities.

Commercial and Industrial Scores and Rankings

Texas is the market leader again this year in offering opportunities to commercial and industrial (C&I) consumers. Twelve other jurisdictions—Alberta, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, Ohio, and Pennsylvania—have strong ABACCUS scores and have achieved significant levels of market activity and switching.

Figure 5

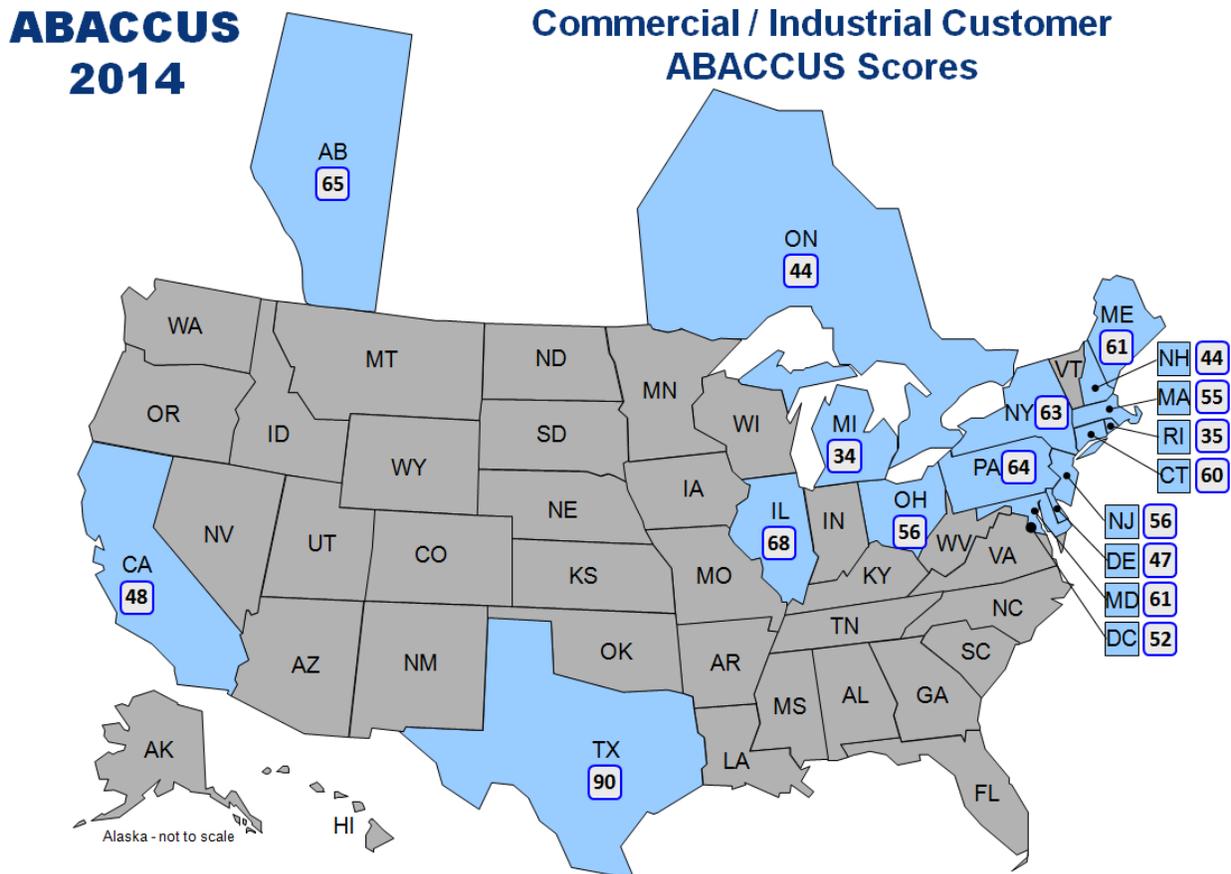


Table 5
Commercial and Industrial ABACCUS Scores and Rank

Jurisdiction	2014 Score	2014 Rank	Prior Rank
Texas	90	1	1
Illinois	68	2	2
Alberta	65	3	7
Pennsylvania	64	4	4
New York	63	5	3
Maine	61	6	9
Maryland	61	6	5
Connecticut	60	8	6
New Jersey	56	9	8
Ohio	56	9	11
Massachusetts	55	11	10
District of Columbia	52	12	12
California	48	13	14
Delaware	47	14	13
New Hampshire	44	15	16
Ontario	44	15	15
Rhode Island	35	17	17
Michigan	34	18	18

Customer net switching (migration) rates and customer choice rates for competitive offerings are high in several states because of the large number of retail energy suppliers, sophistication of the large customers and customized contract offerings.

Table 6
Jurisdictions with Significant C&I Customer Switching²¹

Jurisdiction	Large Customer Switching	Medium Customer Switching
Texas	100.0%	100.0%
Pennsylvania	97.5%	85.5%
Maine	95.6%	60.3%
Illinois	93.9%	83.7%
Maryland	93.8%	71.8%
Alberta	93.8%	62.2%
Massachusetts	89.0%	61.1%
Connecticut	86.7%	78.0%
New Jersey	85.7%	56.5%
District of Columbia	83.5%	83.5%
New York	83.1%	58.7%
Delaware	82.5%	82.5%
Ohio	79.3%	83.5%
California	34.2%	16.6%

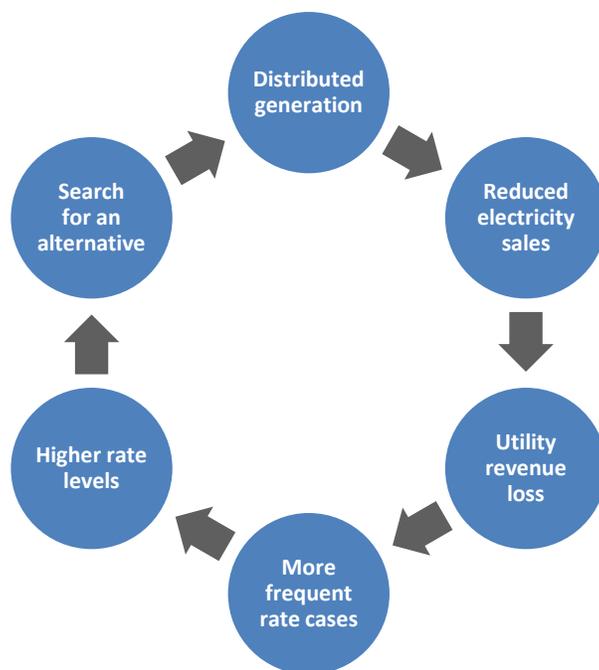
²¹ The jurisdictions use different definitions for switching, and different customer size classifications; therefore, these data are not strictly comparable. Switching refers, in general, to movement away from default service. Several jurisdictions distinguish between commercial and industrial consumers (separated as medium v. large here). Others specify various size thresholds between medium and large. In some instances the size threshold is based on peak usage and in other instances it is based on energy usage. A few jurisdictions place all nonresidential consumers in one group for reporting purposes.

Pressures on Traditional Business Models

A great deal was written in 2013 about technological change in the industry, the emerging competitive forces, and new customer behaviors and how these would challenge the traditional utility business model. The term “death spiral” made a comeback, with pundits predicting—as they did in the 1980s—the demise of electric utilities. They argued—both then and now—that generating units on the customer premises (industrial cogeneration in the 1980s; residential renewable distributed energy generation now) would reduce retail sales of the commodity, that there would be revenue losses to the utility, that the revenue loss from some customers would have to be made up by other customers, that rate cases would proliferate, that rate levels would rise, and that the higher rates would result in even more consumers installing generating units on customers’ premises.

It was predicted that higher rates would exacerbate the loss of projected or anticipated revenues as more customers sought alternatives to the utility. Ultimately, utility rate increases would lead to a downward spiral of demand and the end of the traditional utility business model. As noted, this speculation was rampant in the 1980s as utilities build power plants to serve load growth projections that did not materialize. Certain industrial customers found that they could be served with highly-efficient, on-site cogeneration units. (Utility forecasts of future load were consistently biased upward.)

Figure 6

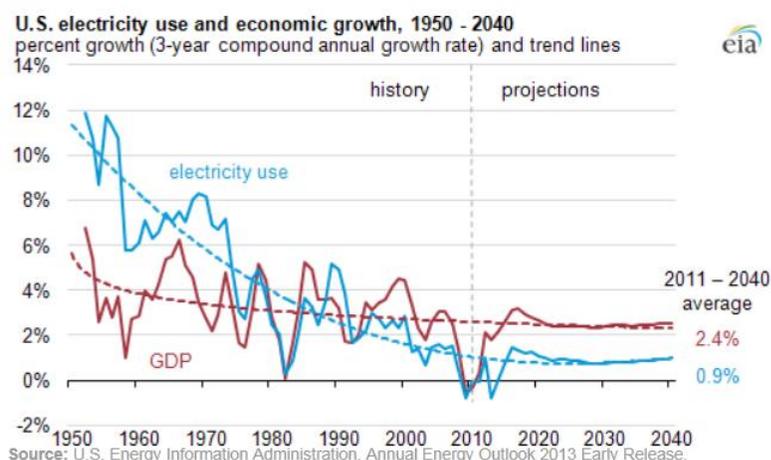


If distributed generation were not problem enough, pundits now also claim that there are greater and greater impacts from energy efficiency and conservation of resources. Customer behavior is recognized as significant, and there is a growing recognition of the behavioral sciences to explain a loss of load growth. (These observations about residential consumers are relatively new. In the 1980s there were a lot of people claiming that conservation programs and federal appliance standards were a waste of time and money, and that the impact from energy efficiency was negligible. With decades of experience, attitudes are changing.)

There are increased references in the literature to DOE charts that display a relationship between energy and economic growth. For example, earlier this year the Energy Information Administration noted that “U.S. economy and electricity demand growth are linked, but relationship is changing” and included the following chart to help explain the relationship. The factors affecting the relationship between electricity use and the economy include, according to the DOE, “slowing population growth, market saturation of major electricity-using appliances, improving efficiency of several equipment and appliance types in response to standards and technological change, and a shift in the economy toward less energy intensive industry.”²² (This writer would observe that these are not new issues, but there widespread acceptance is relatively new.)

Figure 7

U.S. economy and electricity demand growth are linked, but relationship is changing



The long-term outlook is that gross domestic product will grow at more than twice the rate as electricity consumption. (It must be stressed that these long-term relationships are different from the short-term connection between electricity use and economic output. That short-term relationship is quite strong and highly correlated.)

It must be noted that structural changes in the American economy—a move away from manufacturing that began in the 1970s and a growth in the service sector—may be changing again. Manufacturing is on the rise, and there is increased automation in many industries. The “shift in the economy toward less energy intensive industry” may be shifting once again.

Others take a more pessimistic view of electric sales growth, citing energy efficiency programs and investments, including behavior energy efficiency programs and new rate structures that send more accurate price signals. Advances in small-scale generation technologies, storage technologies and advanced controls are also cited as reasons why some utilities may see declining sales in coming years, even as the local economy recovers and grows.

²² “U.S. economy and electricity demand growth are linked, but relationship is changing,” USDOE Energy Information Administration, May 13, 2013. Available: <http://www.eia.gov/todayinenergy/detail.cfm?id=10491>.

The ABACCUS report is not focused on the fate of electric utilities or the changes in utility regulations that may be appropriate to address changing patterns of revenue for regulated industries. However, the speculations and predictions in 2013 have relevance to all retail energy providers who view their role as primarily a reseller of the commodity. REPs may face similar pressures if they have a commodity focus. REPs do not have a regulator to ensure recovery of so-called “revenue losses” since it is the market that provides the discipline.

The pressures on the traditional methods of reselling the commodity are likely to continue, but it is difficult to accept “doom and gloom” forecasts. The drivers of energy efficiency, increased consumer choice, increased consumer access to information, and new technologies all seem to fit well into a market-oriented, consumer-focused paradigm.

Consider for example:

- Smart phones and mobile communications are changing consumers’ relationship to almost everything. As these devices are applied to energy consumption, consumers will increase their control over their usage. They will remotely turn devices on and off, adjust their thermostat settings and reprogram controls for appliances.
- Younger consumers have different expectations about electric service and they are renting and buying homes and initiating electric service. The behavior of the Millennial Generation is measurably different from Gen X and the Baby Boom Generation.²³
- Advanced meter roll outs continue and utilities are interested in consumer-focused uses and applications. Access to detailed consumption information in close-to-real time has obvious benefits for billing and settlement; however, the use of these data by consumers is just beginning to be explored.
- New time-differentiated pricing regimes may have as-yet-unknown impacts on consumer behavior including load shifting, investments in storage devices and energy efficiency.²⁴
- New billing and payment options, coupled with more information from advanced meters, will enable new types of customer transactions. For example, prepaid energy has a demonstrated impact. Consumers save 11% on their energy bills with modest changes in behavior after they initiate prepaid electric service.²⁵
- Several states are encouraging the installation of solar panels on residential and commercial structures. Prices are falling. Incentive programs and net metering tariffs are intended to help utilities meet their goals.
- There are more experiments and pilot programs for micro-grids. New types of utility service may be permitted, and the growth of micro-grids may provide greater accessibility to

²³ DEFG conducts consumer surveys on a variety of energy topics. See: <http://defgllc.com/publications/ecopinion/>.

²⁴ There are competitive retail offers for “free nights,” “free Saturdays,” “free weekends,” “half-off weekends,” “free any days,” etc. There are designed based on what we know about consumer behavior, rather than what we know about system costs. Consumer acceptance and subsequent behavioral changes are in the early stages of development and there are no public reports available on the impacts.

²⁵ DEFG’s Prepay Energy Working Group has been studying the conservation effects of prepayment. Read a press release: <http://defgllc.com/news/article/defg-report-confirms-prepaid-energy-leads-to-significant-drop-in-energy-consumption/>.

information and resources at a more human scale which is appealing to consumers. The impact on consumer behavior is unknown.

- The federal government and regional groups are working to increase the installation of combined heat and power units at hospitals and other locations where energy security and waste heat recovery are valued.

Electric vehicles are cited as an example of electrification that may increase the long-term sales projections for the industry. Precise market penetration projections are difficult to make for this end use. It is unclear what the load shape will look like, and whether people who buy electric vehicles will be interested in low-cost power or power that satisfies a preference for environmentally-benign resources.

For the REP with a business model that focuses on the resale of the commodity, these observations are a cautionary tale. Electricity use may not grow as it has in the past. Your customers may use less over time, even as their incomes grow.

For REPs focused on consumer value, there is relatively little concern. The satisfaction of consumer preferences will result in growth, even as individual consumers use less of the commodity. Consumers will pay for the desirable services, and will reward the companies that best satisfy their needs.

Effective Policy Reforms, Best Practices and Recommendations

Aspects of the Texas market structure are now considered a model for other jurisdictions. With this in mind, some background on the Texas electric market is useful.

While 85% of the load in Texas is located within ERCOT,²⁶ municipal utilities and rural electric cooperatives remain self-regulated with authority to opt into retail choice. The 15% percent of Texas load outside of ERCOT is served by four investor-owned electric utilities—regulated by the state—as well as several small municipal utilities and electric cooperatives. Taking into account the size of the municipal utilities and rural electric cooperatives within ERCOT, about 60% of all Texas consumers have access to retail electric choice.

These Texas consumers with electric choice have had it for 12 years. None of these 60% of Texas consumers has been served by a regulated utility for 12 years, and none has received service under a regulated default service product for seven years.²⁷ Therefore, in Texas electric choice areas, the notion of an incumbent supplier is no longer particularly useful or important.

Texas has the most significant restrictions in North America on the activities of the regulated transmission and distribution utilities (TDU) within the electric choice portions of the state. The TDUs provide delivery services for the electric commodity. TDUs do not produce or sell electricity or provide retail electric services. The business-to-business customers of the TDUs are the retail electric providers in Texas. Retail consumers (the 60%) in Texas are not retail customers of the TDUs and do not receive a bill from TDUs. Retail consumers call the TDU when there is an outage or a danger involving poles and wires.

Texas set up the market with an explicit phase-out of default service. All retail consumers who were eligible for electric choice were served by a competitive provider from the first day the market opened. There were limits placed electric utilities to engage retail consumers. Taken together, new market entrants understood these actions and developed confidence that the retail electric market would offer opportunities for growth. Businesses thrive with regulatory certainty.

Is it desirable for other jurisdictions to mimic the Texas market? Is that feasible? How would such reforms be enacted? What process is required for successful regulatory reform?

These are difficult questions, and the answers are up to the policy makers in each state or province that is considering a set of reforms. The challenges faced by companies operating in North America include the diversity of state and provincial laws and the rich history of precedents and administrative laws that may affect the rate of change in each jurisdiction. Aspects of the Texas experience are not feasible in other places. Some of the regulatory decision making history in Texas had a significant impact on what was possible and likely in Texas.

²⁶ The ERCOT portion of Texas is an organized power market, with several functions under the control of the ERCOT Independent System Operator (ERCOT ISO or simply “ERCOT”). In its early years, the Electric Reliability Council of Texas was focused on reliability, while operation of the transmission system was handled by ten utility systems. Now, the reliability function is handled by the Texas Reliability Entity (TRE), and ERCOT handles the bulk power system operation and settlement, and the tracking of customer meters to service provider.

²⁷ The “price-to-beat” (default service) in Texas was provided by REPs affiliated with the incumbent utility. In other words, on January 1, 2002, about 5.7 million electricity consumers were moved from electric utility service to retail electric provider service. The rates were regulated by the Public Utility Commission of Texas for five years. After five years, rate regulation was eliminated, and any customers who had not chosen a new provider remained with the affiliated REP which had served them for five years. Electric utilities are prohibited from selling electricity.

Recent Reforms

Alberta. In Alberta, the Minister of Energy announced in March 2012 the creation of a Retail Market Review Committee to study the volatility and costs of the “regulated rate option” (RRO).²⁸ The report was accepted and made public in January 2013. Alberta is now implementing recommendations of the RMRC through an implementation team comprised of legislators and Ministry of Energy officials.

Arizona. The Arizona Corporation Commission opened a proceeding to consider re-opening the retail market. It considered comments and later closed the proceeding. Among other concerns, the Arizona constitution was cited as a barrier because of specific language about the fairness of rates.

Illinois. Illinois’ reforms have increased participation of retail suppliers. Illinois saw municipal aggregation activity increase dramatically, including the addition of Chicago.

Indiana. Business interests petitioned legislators about retail electric choice. A panel comprised of 16 members of the General Assembly is studying electric customer choice programs.

Maine. Maine issued a November 2013 order ending staggered procurement for the small customer standard offer service and adopting prices that more closely track the market, and allowing new competitive products to help customers manage price volatility.

Ohio. The Public Utilities Commission of Ohio conducted a retail electric market investigation with stakeholder collaborative workshops in December 2013 on topics relating to enrollment, contracts, purchase of receivables, bills and data exchange.

Pennsylvania. On February 14, 2013, the PUC adopted a final order with default service program recommendations from its statewide Retail Markets Investigation (RMI).²⁹ With the completion of RMI, the PUC has further advanced competitive markets. The order made necessary changes to how default service electricity is purchased and provided to non-shopping customers. Other reforms increased market participation. By the end of 2013, the Pennsylvania legislature was considering potential enhancements.

Texas. The Public Utility Commission of Texas indicated that, in the interests of system reliability, a mandatory reserve requirement should be implemented. Work continues on this effort.

Best Practices

Every jurisdiction that offers retail electric choice ought to reform its market in a manner that increases its ABACCUS score and rank. The following best practices and recommendations are offered as a guide for policy review. There must be commitments and actions at every level of government to adopt the reforms necessary to create opportunities for new investors and entrepreneurs.

Commitments necessary at the highest level

- Adopt and support a strong preference for workable competition in retail energy sales
- Unbundle rates and services to open opportunities for new service providers

²⁸ See: <http://www.rmrc.ca> or <http://alberta.ca/NewsFrame.cfm?ReleaseID=/acn/201203/321543AD1BA38-DFE1-65D3-92E48B254A8FAFB4.html>.

²⁹ Pennsylvania PUC *Investigation of Pennsylvania’s Retail Electricity Market*, I-2011-2237952.

- Create a code of conduct to govern interactions between regulated entities and affiliates
- Educate residential consumers and make information about power markets accessible
 - Create a comprehensive education plan that reflects how far the markets have progressed
 - A Website is available for residential consumers that is easy to use, up-to-date and includes comparison data (price, fixed-price contract term, renewable content, deposit/cancellation fees, and other pertinent consumer information)
- Reform default service in the near term
 - Make default service pricing more market reflective; that is, use competitive power procurement with multiple, short-term auctions; align the default service rates with market prices
 - Make the default service price known in advance of its effective date (greater transparency and predictability)
 - Allow competitive suppliers to provide default service instead of the incumbent utilities
 - Provide C&I default service to small- to medium-sized commercial consumers; default service is not necessary for the largest C&I consumers
 - Limit residential default service pricing to basic (plain vanilla) service; let the market offer choices
- Phase out default service
 - A plan to phase out default service is essential. It must reflect the realities of each jurisdiction. No two plans would be the same as each jurisdiction must be mindful of past decisions

Recommendations

The ABACCUS report sets forth a methodology that gives the direction each jurisdiction should consider to improve the likelihood of success of its retail electric sector. The ABACCUS methodology points to public policies that promote market forces to the greatest degree possible, while maintaining essential consumer protections. The purpose of the ABACCUS report is to point to improvements that may help states with the process of reform.

The following recommendations are suggested, but do not necessarily represent the position of the ABACCUS Advisory Board, its individual members, or their respective companies or regulatory agencies.

Electricity Restructuring Goal

The goal of individual consumer choice will result in innovation, technological change and product differentiation. State legislators and regulatory commissioners need to ask how the state's goal can promote individual consumer preferences and choices. Individual consumer choice looks beyond price per unit to consider a wide range of choice options. Price will always remain an important criterion, but the ability to assess risk, manage a personal budget and select a guaranteed low price over an extended period are some of the other valuable attributes of service and choice which empower individuals to make decisions they prefer.

A goal of individual consumer choice contrasts with the traditional paradigm of cost-of-service regulation that creates the rate per energy unit. The lowest average price of the electric commodity is one important measure of success for an electric market or electricity restructuring, but not the only measure.

Recommendation #1: The goal of retail electricity restructuring is to promote individual consumer choice in the selection of electric products and services.

Market Eligibility

Customers must be eligible to participate in markets. Several states have yet to open all areas to retail electric choice. That limits the ability of consumers to shift from regulated tariffs to competitive offers from retail energy providers.

Recommendation #2: Allow all electricity consumers in the jurisdiction to participate in a competitive retail electricity market.

Aggregation

Aggregation is a process whereby one entity purchases power on behalf of a group of consumers. Several states have authorized “community choice” or municipal aggregation as a way to introduce residential consumers to the benefits of restructured electricity markets without the need for individuals to get educated or to make choices among retail energy providers or diverse retail products. In some programs, an individual must make an affirmative selection (“opt-out”) to leave the pool of aggregated citizens. “Opt-out” community choice aggregation can extend a dimension of bulk power competition in restructured electricity markets, but it is not consistent with individual consumer choice.

Recommendation #3: States with “opt-out” aggregation should develop and implement policies that cultivate and encourage individual consumer choice. States considering community choice aggregation should select “opt in” aggregation.

Wholesale Market Design

Wholesale market development must precede retail electricity competition. Ten organized markets in the U.S. and Canada are advancing the development of the bulk power markets that serve retail electricity consumers. Effective wholesale markets are essential to successful retail markets. A competitive retail energy provider can manage the physical and financial risk associated with electricity in a way that is beyond the capabilities of the typical small energy consumers. Through scale economies, and a deep understanding of both the wholesale markets and the consumers’ needs, a retail energy provider can offer differentiated and customized risk management services that individual consumers would prefer. Policies to support fully-integrated wholesale and retail electricity markets include the adoption of advanced market policies and the integration of retail consumers into demand response activities.

Recommendation #4: Support the introduction of advanced wholesale market practices including market-based congestion management and markets for balancing energy, regulation and reserves.

Recommendation #5: Support the establishment of a market platform that facilitates the participation of retail consumer loads in demand response programs, including aggregation of small-scale loads and deployment of advanced meter infrastructure.

Default Service Design

Default service (basic or standard service) refers to the retail products established to provide a transition from legacy regulated rates to market-based prices, products and services. The design and implementation of default service is the single most significant issue affecting the success of electricity restructuring in the residential sector. Competitive markets and retail energy providers can provide a range of products and services from which consumers may choose. Default service that operates in opposition to the following recommendations is probably inconsistent with a transition to retail competition.

Recommendation #6: Establish default service as a transition mechanism, with a clear ending date for the majority of consumers. Develop and implement a plan for a transition from the default service to individual consumer choice.

Recommendation #7: Design a default service product that is plain vanilla, easy to understand, and meets the basic needs of the consumer. Do not attempt to mimic the variety, scope or breadth of rates or services that are provided by energy suppliers to individual consumers.

Recommendation #8: If supply procurement for default service is done through competitive wholesale procurements, rely on multiple, short-term auctions. This will ensure that appropriate pricing signals are sent to consumers to allow them to select a competitive electric service product and to efficiently manage their energy usage.

Facilitation of Choice

Each state may adopt policies and programs to facilitate the choice of energy supplier. The options include rules, regulations and laws regarding electric distribution utility structure, utility-affiliate codes of conduct, rules governing billing and metering, and rules that require the standardization of business transactions among all market participants. Energy suppliers will enter a market when they have certainty regarding market structure, rules and oversight.

Recommendation #9: Establish a plan for the separation of regulated utility services from competitive services, and for the application of a strict code of conduct to govern interactions between the regulated electric distribution utility and its competitive affiliates.

Recommendation #10: Establish protocols and standards for access to basic consumer information including commercial practices and electronic data exchange.

Recommendation #11: Establish a flexible approach to customer billing, establish a plan for advanced metering infrastructure, and adopt rules for consumer privacy, data security, and access to consumer usage data.

Public Policy Goals

States and provinces employ a variety of mechanisms to achieve goals for energy efficiency, renewable resources, demand response and the promotion of on-site power generation. Some regions have taken a command and control approach through standards and codes, but should instead pursue market mechanisms to achieve compliance. Most residential consumers rely on competitive markets to purchase appliances, perform home repairs and make home improvements. C&I consumers acquire

services relating to energy usage, investments in new processes, installation of more efficient devices and the measurement, monitoring and control of devices. The ABACCUS methodology is relatively indifferent to policies relating to renewable resources and energy efficiency as long as the policies treat all the market participants fairly

Recommendation #12: Rely on market forces to the maximum extent possible to achieve goals relating to renewable resources, energy efficiency, demand response and distributed generation.

Appendix A: ABACCUS Advisory Board and Sponsors

The ABACCUS Advisory Board is comprised of energy executives, regulatory commissioners and former commissioners, agency staff members and representatives from sponsoring companies. The ABACCUS Advisory Board was established to facilitate a sharing of ideas among industry stakeholders and to improve public awareness of the value of retail competition in the electric sector.

The report is sponsored by companies with a stake in competitive electric markets in North America.

The views set forth in this report are those of the author. The report does not necessarily represent the views of any particular Board member, government agency, company or organization.

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- Kathryn J. Wood, Competitive Markets, Electricity Division, Alberta Ministry of Energy
- Philip Shum, Business Unit Leader, Retail Markets, Electricity Division, Alberta Ministry of Energy
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- Commissioner Ann McCabe, Illinois Commerce Commission
- Torsten Clausen, Director of Office of Retail Market Development, Illinois Commerce Commission
- Chairman Thomas L. Welch, Maine Public Utilities Commission
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- Chairman Todd Snitchler, Public Utility Commission of Ohio
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- Robbie Wright, Chief Executive Office, Bounce Energy
- Joel Malina, Executive Director, Compete Coalition
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- Justin Courtney, Senior Vice President, Stephens Inc.
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Appendix B: Electricity Industry Terminology by Jurisdiction

	Retail Energy Provider (REP)	Default Service	Electric Distribution Utility (EDU)	Miscellaneous
Arizona	Energy Service Provider (ESP)			
California	Electric Service Provider (ESP)			
Connecticut	Electric Supplier	Standard Service (small customers) Supplier of Last Resort Service (large customers)		Generation Service Contract (GSC)
Delaware	Electric Supplier	Standard Offer Service (SOS)		
District of Columbia	Electric Generation and Transmission Supplier	Standard Offer Service (SOS)		
Illinois	Alternative Retail Electric Supplier (ARES)			Office of Retail Market Development (ORMD)
Maine	Competitive Electric Provider (CEP)	Standard Offer Supply (SOS)		
Maryland	Electric Supplier	Standard Offer Service (SOS)		
Massachusetts	Competitive Supplier	Standard Offer Service (SOS through 2004) Basic/Default Service		
Michigan	Alternative Electric Supplier (AES)	Default Service		Retail Open Access (ROA)
Montana	Competitive Electricity Supplier			
New Hampshire	Competitive Electricity Supplier	Transition Service Default Power Service		
New Jersey	Alternative Energy Supplier	Basic Generation Service (BGS)		
New York	Energy Service Company (ESCO)			Market Supply Charge (MSC) and Merchant Function Charge (MFC)
Ohio	Competitive Retail Electric Service (CRES) Providers	Standard Service Offer (SSO)		Electric Security Plan (ESP) and Market Rate Offer (MRO)
Oregon	[Certified] Electricity Service Supplier (ESS)			

	Retail Energy Provider (REP)	Default Service	Electric Distribution Utility (EDU)	Miscellaneous
Pennsylvania	Licensed Electricity Supplier; Electric Generation Supplier (EGS)	Default Service Default Service Provider (DSP)	Electric distribution company (EDC)	Conservation Service Providers (CSP) Office of Competitive Market Oversight (OCMO)
Rhode Island	Competitive Electric Supplier Non-regulated Power Producer	Standard Offer Last Resort Rates		
Texas	Retail Electric Provider (REP)	Price-to-Beat (PTB) (ended 1/1/2007) Provider of Last Resort (POLR)	Transmission and distribution service provider (TDSP) Transmission and distribution utility (TDU)	
Alberta	Retailer Retail Energy Provider	Regulated Rate Option (RRO)		
Ontario	Electricity Retailer	Standard Supply Service (SSS) Regulated Price Plan (RPP)	Local distribution company (LDC)	Hourly Ontario Energy Price (HOEP) wholesale commodity price

Appendix C: Policy Issues in Retail Electricity Competition

For decades, electric utilities in North America were treated as natural monopolies and regulated in the production, delivery and sale of the electric commodity. Economic regulation (price setting) and quality/safety regulation (maintaining safe and reliable service) were primarily conducted at the state level, but there was federal regulation of interstate, high voltage transmission, as well as significant local regulation and taxation through franchise fees and land use restrictions.

Beginning in the 1970s, regulation in the United States changed as more attention was paid to the end uses of electricity, the retail customer and the retail customers' premises as an integral part of the utility system. We began to formalize the programs and services that touched the retail customer. In various parts of the country and at various times, retail customers in the U.S. witnessed the emergence of: conservation programs and end-use-energy-efficiency programs; direct-load-control and load-management programs; reduced-voltage control; interruptible/curtailable load tariffs; time-of-use rates; distributed-generation interconnection; net metering; cogeneration; avoided cost calculations and payments; economic-development tariffs and special-contract pricing; retail wheeling; etc.

As customers became more educated and aware, and experience was gained, new forces began to shape the policy discussions. Information about what was feasible could be combined with emerging technologies to make new demands for change. In the 1990s, open-access transmission and direct retail access to customers could be practiced in several regions and states, and the traditional boundaries of the monopoly were questioned.

The discussions about the scope and role of the utility and the regulator are ongoing. Several significant issues are important to those discussions. This appendix provides background information on:

- The Goals of Retail Electric Competition
- Municipal Aggregation of Retail Electricity Consumers
- Default Service for Retail Consumers: Transition or Choice?

Goals of Retail Electric Competition

What are the goals of a state legislature or regulatory commission that has decided to set up a fully competitive electric market? What do the residents, voters and consumers value?

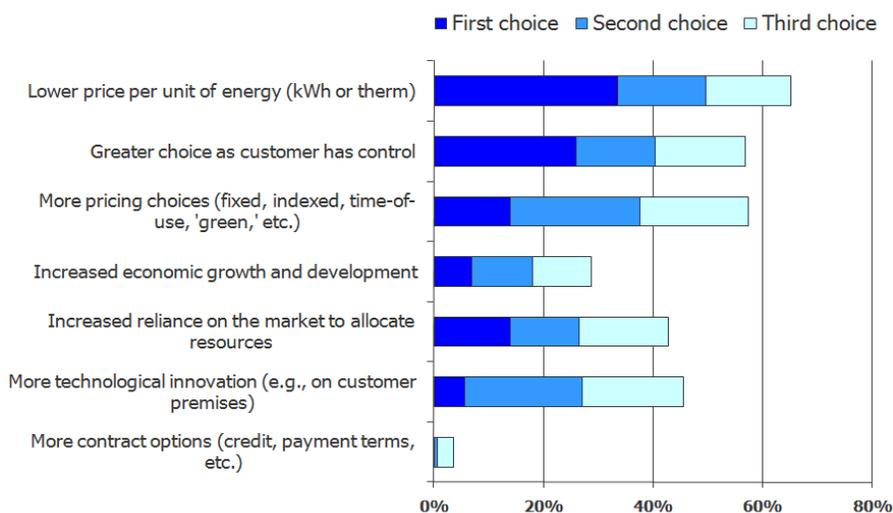
Some observers and experts judge success or failure of electric industry restructuring by one measure: the average cost of retail electricity. Every school child should know that there are many ways to calculate an arithmetic average. Setting aside the math for a moment, there are other dimensions of this goal that are worthy of discussion.

Most homeowners and businesses determine the value of their electric service in terms of the value provided by their electricity-consuming end-use devices or appliances. There are numerous attributes of service which they value: price per unit, total cost, price volatility and price-risk management, reliability of delivery, power quality, fuel source, customer service, bill payment options, economic development, access to new technologies, etc.

In 2006, 2009 and 2011, DEFG conducted an online survey of energy professionals on electricity restructuring in North America.³⁰ The online survey targeted energy professionals with an interest in electric policy and electric industry restructuring.

The respondents were asked to select their first, second and third choices from a list of seven options in response to the question: “In your opinion, what are the goals of a fully competitive retail energy market? Which outcomes are the most important? Select the top three.” A large number of respondents in all three years gave high rankings to “greater choice as customer has control” and “more pricing choices” in addition to “lower price per unit of energy.” (The following chart displays 2011 results, but the other years were similar.) Six of the listed options received a significant level of support and other options were written in (e.g., some respondents mentioned “conservation” or “demand response”). While “lower price per unit of energy” was selected as the top choice by one out of three respondents in 2011, it was not universally selected or even preferred by a majority of respondents as the goal of a fully competitive retail energy market.

Figure C-1
Goals of a Fully Competitive Retail Energy Market



This chart tells us that different energy experts view the world differently, and that no one goal is definitive, obvious or universally accepted.

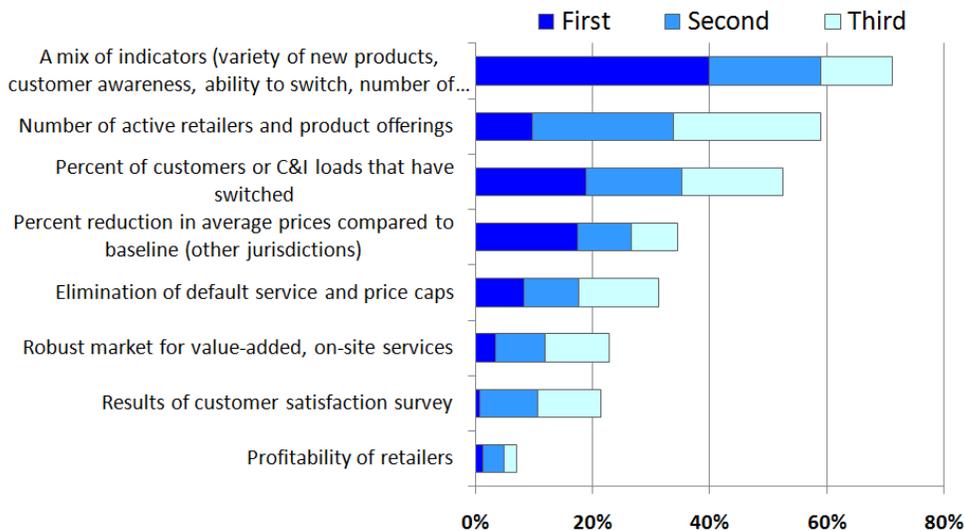
We also asked energy professionals, “In your opinion, what are the three most effective ways to measure whether there is a fully competitive market?” We felt that measurement was an important consideration, especially in light of the purposes of the ABACCUS report. A majority in the 2011 survey responded that “a mix of indicators” would be appropriate to measure whether there is a fully competitive market.

Forty percent of respondents listed “a mix of indicators” as their first choice (out of the eight options offered for consideration and ranking). Seventy-one percent placed “a mix of indicators” among the top three choices. “Percent reduction in average prices” was fourth overall, behind “a mix of indicators,” “number of active retailers,” and “percent of customers or C&I loads that have switched.” With this

³⁰ “Electric Industry Restructuring Survey,” conducted online by DEFG, November 2006, September 2009 and July 2011. The results were shared with the ABACCUS Advisory Board and included in a subsequent ABACCUS report.

response, we felt that the ABACCUS report was vindicated, because ABACCUS uses “a mix of indicators” to assess the markets.

Figure C-2
Most Effective Way to measure Fully Competitive Retail Energy Market



These results support the use of many indicators to assess electricity markets. These survey responses reinforce a finding that people understand that there are many goals that are important when considering the provision of energy services, and there are many ways to measure success. A single metric misses the point.

DEFG routinely surveys consumers about energy and utility issues. The EcoPinion Consumer Survey No. 11 pointed to overwhelming consumer support for the concept of competition in the retail purchase of electricity.³¹ Eighty-eight percent of those surveyed thought it was a good idea. This holds true across all demographic segments and geographical regions of the country. Younger Americans (18-34 years old) had even stronger support (90%) for competition in the retail purchase of electricity than did older Americans (84%).

This U.S. narrative confirms a market orientation including the purchase of electricity from competing suppliers. This provides grounds to support continued advancement in electricity restructuring; however, there is a significant amount of work ahead with regard to raising consumer awareness and restarting a national dialogue on the issue.

Municipal Aggregation of Retail Electricity Consumers

Municipal or community aggregation, in its various forms, is intended to bring the benefits of bulk power market competition to small, retail consumers. Ohio, California, Illinois, Massachusetts and a few other jurisdictions have authorized municipal aggregation.

³¹ “Resurgence for Retail Electricity Choice and Competition,” EcoPinion No. 11: DEFG and EcoAlign, April 2011. Available: www.defgllc.com or www.ecoalign.com.

Municipal aggregation is consistent with a goal of providing the electric commodity at a reasonable cost to residential consumers. Municipal aggregation tends to favor standard or “plain vanilla” electric service; that is, the purchase of the electric commodity at a reasonable price. Many people are comfortable treating electric service as merely the purchase of the electric commodity, and they like municipal aggregation.

Municipal aggregation does not, however, promote individual choice of electric provider, differentiation of retail services and products, innovation, or technological change at the small consumer or retail level. Opt-out municipal aggregation tends to maintain the status quo with respect to individual consumer awareness, education and choice. That is, municipal aggregation does not require consumers to increase their education and make individual choices.

If individual choice, product/service differentiation, innovation and technological change are desired, then jurisdictions which authorize and promote aggregation programs—especially the opt out form—ought to treat aggregation as a transitional mechanism. These jurisdictions should develop and implement policies that cultivate, encourage and support individual consumer choice.

Jurisdictions that permit municipal aggregation with the “opt-in” provision are more likely to achieve consumer understanding of the option and its limitations.

Municipal aggregation and consumer preferences

Municipal aggregation is a process whereby one entity purchases or contracts for power on behalf of a group of consumers. Some states have authorized “community choice” or municipal aggregation as a way to introduce citizens to the benefits of restructured electricity markets, without any need for individuals to make a choice of retail energy provider or to select a retail energy product. In some programs, individuals must make an affirmative decision to leave the pool of citizens (they must take action to “opt out”). Opt-out aggregation, if properly structured and consistent with existing market structures, can extend a dimension of bulk power competition into restructured electricity markets, especially where consumers have not made individual choices.

Different stakeholders view opt-out aggregation differently, and these differences parallel their views regarding the goals of electricity restructuring. If you believe the goal of electricity restructuring is to maximize switching away from the default service provider, while managing electric service costs, then you may prefer municipal aggregation. To achieve this, a few informed people (perhaps elected officials and their expert consultants) can decide what is best for the population (the citizens of the town). Municipal aggregation allows a local governmental unit to act on behalf of many people, and it permits an averaging of the risks and rewards associated with purchasing the commodity across all citizens.

Aggregation treats consumers as if the elected officials already know what consumers want—typically, a plain-vanilla product of price-risk-managed, reliable, electric power. This is a one-size-fits-all approach. In that sense, aggregation can be viewed as similar to traditional electric distribution utility regulation and to regulated default service. Aggregation conducted by elected local officials gives consumers confidence that the local elected officials—who they may know and trust—are acting in their best interest to try to secure power. If individual consumers are not involved in the decision making, however, they may not buy into the results. If commodity costs change, consumers may become concerned that they were locked into a contract for power that they did not select.

The outcomes of municipal aggregation may therefore depend on timing and luck. Consumers will graciously accept locking in a price that looks good in hindsight. Consumers are fickle, however, and will be critical of contracts and decisions that turn out to be ill-advised.

Some stakeholders believe that the goal of electricity restructuring is to enable individual choices. Consumers who make choices are engaged and buy into (i.e., are responsible for) their own decisions. Further, decisions by individuals align a consumer with personalized or customized contracts for power and services. This perspective holds that entrepreneurship will more quickly apply new technologies and innovative products and services to meet individual consumer needs. The resulting bundles of products and services may include services not directly related to electric service.

Although many people in North America are accustomed to purchasing the electric commodity, they are starting to exhibit new behaviors and preferences. The individual choice perspective may make more sense over the long term. Services may change and future bundles of popular services cannot be known today. The individual choice perspective recognizes that new market segments may arise and new technologies may dramatically alter the way that electricity is consumed, stored or manipulated. Advocates of this perspective point to the rapid and quite dramatic changes in the telecommunications industry as an example of what is possible in the electric industry. They also tend to see opt-out aggregation as reducing consumer choice, and reducing the level of competition in the market.

State experiences with municipal aggregation

California. Assembly Bill 117 enables local governments to develop opt-out community choice aggregation programs to “offer procurement service to electric customers within their political boundaries.” The CPUC has finalized procedures for informing customers about the programs and how to “opt-out” of service from the programs. One electric distribution utility has been aggressive in its efforts to retain customers (i.e., encourage consumers to opt-out). In a recent proceeding, the CPUC clarified that that utilities which engage in commercial speech that is untrue or misleading may be liable for penalties and subject to a temporary restraining order or preliminary injunction in a complaint before the CPUC. Further, the CPUC prohibited utilities from offering alternative opt-out mechanisms from those identified in the community-specific information provided by the aggregator.³²

Ohio. Ohio’s electric restructuring law allows communities to aggregate their loads when they negotiate electricity prices. Under aggregation, residents receive a postcard in the mail notifying them of their new electricity provider. Those who choose to “opt out” and continue buying power from their current supplier have 21 days to act. Between 2001 and 2005, residential consumer participation rose to nearly 900,000 in aggregation programs. Later, participation fell to about 200,000 and by 2006 nearly all consumers were back on default service. Between 2008 and June 2010, the number of aggregated residential consumers rose from 202,000 to 910,000. Approximately 71 percent of the state’s switching residential consumers were in an aggregation program as of September 2013.

Illinois. Public Act 96-0176 amended the Illinois Power Agency Act effective January 1, 2010 to allow municipalities and counties to aggregate electrical load. Municipal corporate authorities and county boards can adopt an ordinance to aggregate residential and small commercial electrical loads and solicit bids for the sale and purchase of electricity. A referendum is required to determine whether or not the aggregation shall be an opt-out program. Municipal aggregation activity has increased dramatically from 2011 through 2013. An opt-out aggregation referendum was on the March 20, 2012 election ballot in 306 communities. Of these, 245 passed. Staff of the Illinois Commerce Commission estimate that as of

³² CPUC Decision 10-05-050, Rulemaking 03-10-003, Decision modifying the Decision 05-12-041 to clarify the permissible extent of utility marketing with regard to community choice aggregation programs, May 20, 2010. Available online: http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/118462.pdf.

May 2013, about 78% of the switching reported for residential consumers in Illinois is due to aggregation.

Understanding the differences between “opt in” and “opt out” aggregation

Rules matter. One of the decisions that must be made when authorizing a municipal aggregation program is how to determine whether individuals are part of the program when it is initiated. At first people may ask, “Why does that matter? As long as people have a choice, why does the starting point matter?” For better or worse, our experience with human behavior has taught us that the starting point does matter.

If you require people to affirmatively “opt out” of aggregation, then a relatively small number of consumers will tend to leave the program when it is announced, even if such opportunities to leave are not restrictive. Likewise, if you require people to affirmatively “opt in” to aggregation, then fewer consumers will tend to join the program, even if the opportunities to join are not restrictive.

A low rate of “opting out” could be due to a low level of consumer awareness of the process, or a high level of satisfaction with aggregation programs, or to difficult and restrictive rules, or some other factor entirely, or a mix of several factors. For example, an “opt out” opportunity that is limited to a short “opt-out window” could be successful in retaining most people in the pool of consumers. If that is the goal, then policy makers would want to make sure that “opting out” is difficult. However, that approach seems inconsistent with a goal of customer choice. In contrast, an “opt-in” program would tend to have more informed people in the pool who have bought into, and taken responsibility for, the process.

In certain situations, a requirement for a consumer to “opt out” of a transaction is considered “negative option” marketing. Early book-of-the-month clubs and record clubs were pioneers in these transactions. The consumer must decline specific products or services to avoid new transactions. This is now illegal in some states. Negative option marketing has received Federal Trade Commission scrutiny, including recent actions to protect consumers and rein in aggressive marketers.

There are observed differences in “opt-in” and “opt-out” behavior. For example, there is experience in the medical profession with different jurisdictions and very different rules regarding organ donations. Some countries allow people to “opt in” to organ donations, while others assume that every citizen is a potential organ donor unless they “opt out.” The results of the two starting points are dramatically different. Authors Johnson and Goldstein refer to the “no-action default” as the starting point for organ donor consent.

The well-documented shortage of donated organs suggests that greater effort should be made to increase the number of individuals who decide to become potential donors. We examine the role of one factor: the no-action default for agreement. ... We then describe research that shows that presumed consent increases agreement to be a donor, and compare countries with opt-in (explicit consent) and opt-out (presumed consent) defaults. Our analysis shows that opt-in countries have much higher rates of apparent agreement with donation, and a statistically significant higher rate of donations, even with appropriate statistical controls.³³

Johnson and Goldstein also observe that: (1) “almost every public policy has a no-action default, and the wise selection of defaults entails a balance between these costs,” (2) “the idea that preferences are

³³ Johnson, Eric J. and Daniel G. Goldstein, “Defaults and Donation Decisions,” *Transplantation*, December 2004, 78(12), pp 1713-1716.

constructed provides an important alternative to views that incentives are required to increase the rate of donation” and (3) “there is another cost ... and that is the cost of making a decision. ... Defaults not only make a difference in what is chosen, they can also make decisions easier.”³⁴

It matters whether an aggregation program is “opt in” or “opt out.” If policy makers want maximum participation, then setting the “no-action default” as “opt out” will likely result in larger aggregation programs. However, like the regulated electric distribution utility service, consumers will not be as “bought into” the process and may continue to lack the education necessary to make individual choices of energy suppliers or retail products in the marketplace, which hinders the long-term development of the retail market.

Municipal aggregation, choice and innovation

Almost every stakeholder agrees that consumer awareness and education are a necessary part of electric restructuring. Local governments may feel they are in a unique position to raise consumer awareness regarding electricity choice. Aggregation is one way to make people aware of an alternative means of securing electricity. People readily understand the idea of “buying groups,” and municipal aggregation is an effective way for consumers to quickly obtain the benefits of bulk power markets to ponder the benefits of a competitive market.

Those who oppose opt-out municipal aggregation believe that individuals ought to make choices. They view awareness and education as a process whereby consumers become aware of market changes which allows individual consumers to select among many competing products and services. They see opportunity in the development of customized products and services. Further, they typically believe that well-developed retail electricity markets do not need aggregation programs if default service has been properly designed and implemented. If default service is a transition service, and is phased out, consumers will pay attention to their choices. Municipal aggregation risks becoming an end point in electric market transformation—effectively giving up on choice before it has a chance to develop—and stifling a fully competitive market.

Aggregation perpetuates the notion that electricity is a commodity, and that innovation, technological change, creativity, brand development and entrepreneurship are not important. Those who advocate for individual consumer choice feel that the electric commodity is just one input into an array of electric services, and that the act of choosing is important.

Default Service for Retail Consumers: Transition or Choice?

Residential consumers need time to become educated about making individual choices; therefore, many experts in electricity restructuring believe that default service is necessary for a period of time, especially for small electricity consumers. However, poorly-designed default service discourages energy suppliers from entering electricity markets. Default service must reflect bulk power market prices and provide energy suppliers with opportunities to provide new services to individuals.

Recommendation. Each state and province ought to ensure that default service is a transitional service, that it meets consumers’ basic needs, and that it closely tracks the cost of power in the wholesale power market. Default service is not necessary for large C&I consumers.

³⁴ Id. p. 1716.

The ABACCUS methodology considers different dimensions of default service. It matters who provides default service. It matters how it is procured. It matters whether it is a basic package of services or a substitute for services that could be provided through a competitive market. Most significantly, it matters whether or not default service continues to exist. Full credit is not given in the ABACCUS methodology until a state completely phases out default service.

The design and implementation of default service is the single most significant issue affecting the success of retail electricity restructuring in the residential sector.

The design and implementation of default service is the most significant single issue affecting the success of retail electricity restructuring in the residential sector. If regulators are determined to design default service so as to attempt to address all residential consumers' needs, set prices artificially below cost, or to bundle risks and spread the risk premium to all consumers, then it is unlikely that energy suppliers will enter the market. A poorly-designed default service program can undermine retail competition because it attempts to provide the services that a robust market can provide.

Default service transition in Texas, 2002-06

Texas is the only jurisdiction in North America that has phased out residential default service. Default service in Texas (the "price-to-beat" or PTB) was provided by the affiliated retail electric provider—the REP affiliated with the incumbent utility. On January 1, 2002, over 5.6 million electricity consumers were moved from the regulated electric utility to the affiliated REP. The price-to-beat rates were regulated by the Public Utility Commission of Texas for five years; that is, until December 31, 2006. After these five years, rate regulation of the price-to-beat was eliminated, and any consumer who had not chosen a new provider simply remained with his/her affiliated REP.

Provider of last resort (POLR) is a separate safety-net service for customers whose retail energy provider goes out of business. Some jurisdictions have combined these services, thus mixing a service that should be phased out with a service that is an ongoing safety-net service. Texas chose to separate the two services, to make an important distinction between the transition service and the safety-net service.

Twelve years of experience in Texas are displayed in the timeline in Figure C-3. Prominently displayed is the five-year default service transition period, from January 1, 2002 through December 31, 2006. The ongoing "provider of last resort" service that is available to anyone who, through no fault of their own, loses the retail energy provider.

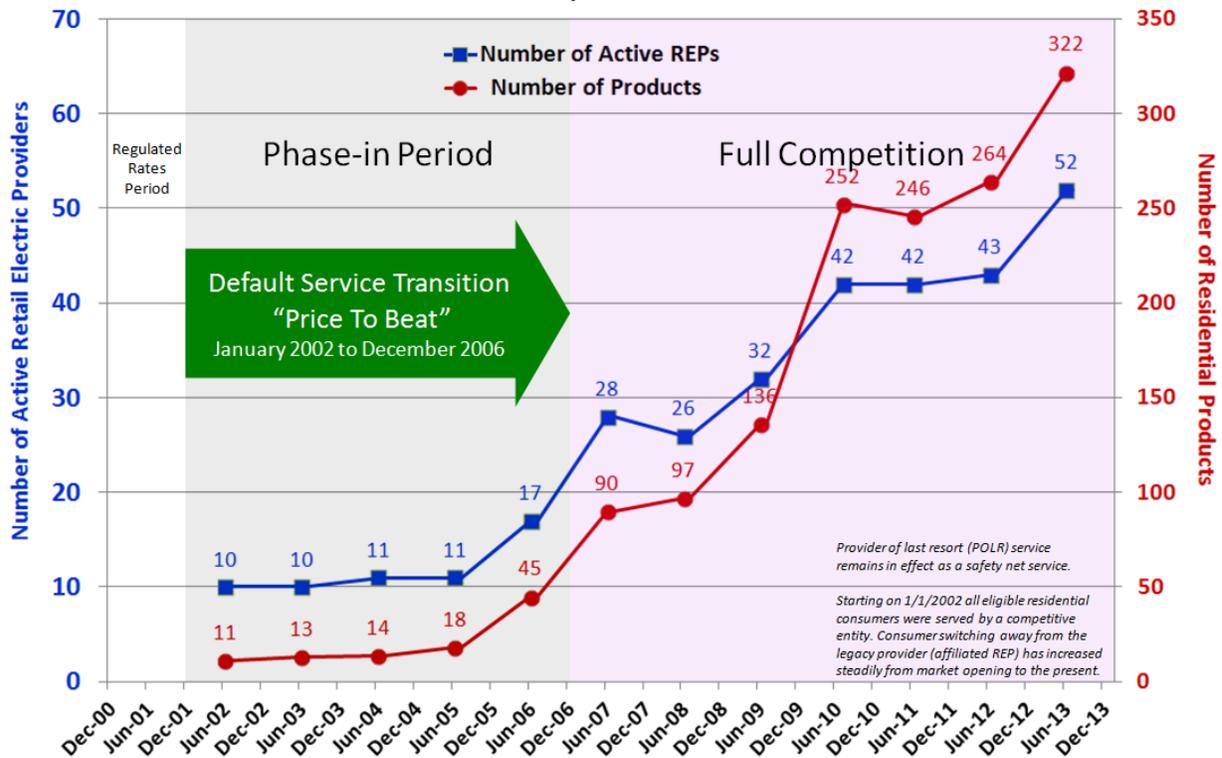
The timeline also displays what has occurred in the residential electricity market, partially in response to the policies regarding default service. The number of REPs (blue squares) and number of product and service offerings in the market (red circles) are displayed.

Though correlation is not causality, one can observe an uptick in the number of REPs and the number of residential offers in anticipation of the end of default service. One can also observe significant growth in market participants and products since that time.³⁵

³⁵ For more discussion of the future of default service in restructured electricity markets, see Alberta's 2012 report prepared by the Retail Market Review Committee.

Figure C-3

Development of the Competitive Residential Electricity Market:
Texas, 2001-2013



Principles for the phase out of default service

There are a number of actions that a state 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, and allow consumers to better respond to price changes. Consumers will become more aware of market choices. For consumers who desire a longer-term fixed-price product, energy suppliers will offer such products.

Several of the states that allow retail electricity choice have had problems with implementation. In an effort to protect consumers, states have set default service rates below costs, and placed restrictions on the ability of energy suppliers to make a reasonable profit for the risks they incurred. Stated plainly, some jurisdictions designed default service in a way that discouraged the formation of competitive markets. These states need to raise consumer awareness and education, and encourage consumer behavior that is conducive to establishing a system of individual consumer choice. Many residential consumers are less actively monitoring the market and making choices, and it takes some time for new service providers to make the investments necessary to offer services that address consumer preferences.

Each state and province ought to adopt the following principles with respect to default service:

- Default service is a transitional service with a clear beginning, middle, and end

- Default service is not necessary for large C&I consumers
- Default service ought to be easy for residential consumers to understand
- Default service ought to meet only the residential consumer's basic needs
- Default service should closely track the cost of power in the wholesale power market
- Default service auctions should not bid out the entire load at one time because multiple, short-term auctions may be more effective

It is also worth noting that responsibility for providing default service can be placed on the electric distribution utility, or transferred to a competitive retail energy provider. As noted above in the context of municipal aggregation, the starting point of a new process matters in very practical ways. If you want small consumers to understand that the electricity market has been restructured, and that responsibilities have changed, then it is important that the market structure reflect these roles.

Texas took a deliberate approach to electric distribution utility regulation. In 1998-1999, the PUCT conducted a rulemaking proceeding to define what customer services should be competitively provided and what services should continue to be provided by the electric distribution utility. The PUCT defined "competitive energy service" as comprising "customer energy services business activities that are capable of being provided on a competitive basis in the retail market."³⁶ These included many services.³⁷ The PUCT determined that an "electric utility shall not provide competitive energy services."³⁸

Default service ought to be designed as a transitional service that meets a residential consumer's basic needs while consumers gain knowledge of, and confidence in, the individual choices available in the market. Poorly-designed default service discourages energy suppliers from entering electricity markets.

³⁶ PUCT Substantive Rule §25.223, Unbundling of Energy Service, last updated 6/14/1999.

³⁷ PUCT Substantive Rule §25.341, Definitions (Subchapter on Unbundling and Market Power), last updated 10/09/2003.

³⁸ PUCT Substantive Rule §25.343, Competitive Energy Services, last updated 7/11/2005. See subsection (c), Competitive energy service separation.

Appendix D: Survey of U.S. States and Canadian Provinces

This survey of states and provinces includes text about important events relating to electric industry restructuring in each major jurisdiction in North America. We provide an overview of the major legislative and regulatory decisions. Next we present tables with switching statistics, the number of competitive electric retailers and competitive products available to residential customers. We display the electricity sales and average price trends over the past two decades. A few additional charts are provided with information relating to the report.

The U.S. states in alphabetical order are followed by the Canadian provinces.

Data Sources and Assumptions

The description of electric industry restructuring in each jurisdiction provides a high-level summary of the major restructuring legislation and decisions that have shaped the opportunities for individual consumer choice since the 1990s. This information is based on electric distribution utility and regulatory agency Web sites, press releases, interviews with regulatory agency staffers, and comments and data provided by members of the ABACCUS Advisory Board.

“Switching” refers to the percent of customers (for residential) or customer loads (for commercial and industrial) that have moved or migrated from the incumbent or default service (i.e., the standard offer, basic service) to a competitive contract or product from a competitive retail energy provider. We present the “net switching” numbers which are distinct from a measure of “annual switching” reported in certain sources. These data are typically available on the websites of a jurisdiction’s regulatory agency. Since reporting methodologies vary, we present switching data in terms of percent of eligible residential customers and percent of nonresidential load. “Load” may refer (depending on the jurisdiction) to “non-coincident customer class peak demand” or “megawatt-hours sales.” Where available, these data are displayed for each electric distribution utility service area.

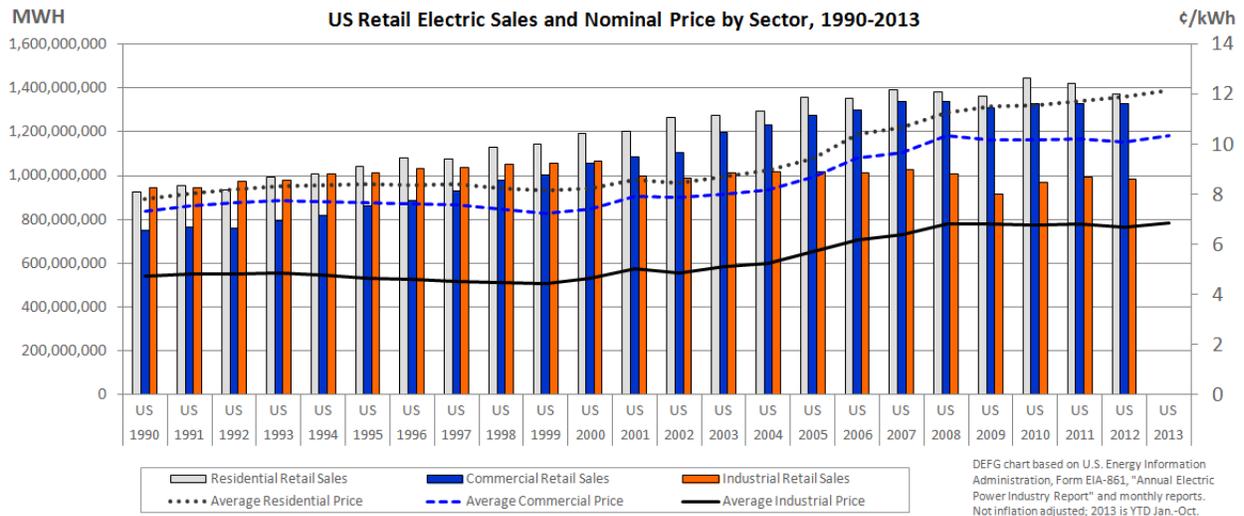
Switching statistics provide a snapshot of the status of retail choice; however, switching statistics are just one of the many inputs into the ABACCUS model. It is also worth mentioning that switching statistics may not indicate multiple customer switches (the “churn” rate), or customers who may select a competitive contract or pricing plan from the default service provider or the incumbent service provider. (For example, in certain jurisdictions, the default service provider is allowed to offer both regulated default service and competitively-priced alternatives.)

In 2010, the ABACCUS Advisory Board determined that the report needed to expand its scope and measures. There are many services and products that provide the value to consumers beyond price. Electricity restructuring allows new choices, such as locking in a low price for a period of months or years. The number of products offered to residential consumers is displayed in a table next to the number of electric suppliers. The number does not include the default service, and assumes one product per active supplier unless additional information is publicly displayed. The great variety of choices available to commercial and industrial customers is not publicly available and does not appear in this report.

Data reported to the USDOE’s Energy Information Administration provides background on the volume of retail electricity sales and average electricity prices in each state. Residential, commercial and industrial electricity sales (in megawatt-hours for the period 1990 to 2013) are presented as bars in the state-level chart. (Due to the EIA’s reclassification of sales data and sectors (e.g. municipal lighting and agricultural uses), there are occasional discontinuities; in some years the commercial sales increase while industrial

sales fall, and vice versa.) Average electricity prices for residential, commercial and industrial consumers are displayed as lines. Average price calculated by EIA as the total annual revenues divided by total annual sales in each sector.

The following chart displays the EIA's data for the U.S. as a whole:



Arizona

Legislation (HB 2663) was enacted in 1998. The Arizona Corporation Commission (ACC) rules required generation divestiture (transfer to a utility affiliate) and mandated a rate cut. Retail choice was phased-in, with about 90% of electric customers eligible for retail choice by January 2001. By June 2001, all competitors had pulled out of the market due to the way the shopping credit was established. Wholesale market prices rose, but the low credit subtracted from the retail rate for the energy service provider to compete, was not increased. Switching halted and all customers were returned to the incumbents.

Citing market immaturity, Arizona Public Service Company (APS) asked the ACC to overturn the rules that compelled it to obtain power from the competitive market. APS proposed that the power needs be met through 2015 from the parent company, Pinnacle West Capital Corp., and the competitive generation affiliate. In making a determination, the ACC issued Decision No. 65154 (Track A) in September 2002, and ordering APS and Tucson Electric Power Company (TEPCO) to cancel any plans to divest interest in any generating assets. The ACC also stayed the requirement that 100% of power purchased for Standard Offer Service be acquired from the competitive market. Without an RTO in the western U.S., and with the problems in California markets, the ACC was not willing to wait for markets to function properly.

In March 2004, Arizona Court of Appeals ruled that the ACC's decision to require electric utilities to divest their generation assets was unconstitutional because the ACC was trying to control rates, not utilities, and had not proven the case for divestiture. By October 2004, restructuring was placed on hold.

Sempra, a competitive energy service provider in Arizona, has argued (Docket No. E-03964-06-0168) that it is fit to serve as a competitive energy service provider and it has requested reinstatement. The ACC determined that certain other findings were still needed and it has ordered the ACC's Utilities

Division to conduct public workshops to address the underlying policy issue of whether retail competition is in the public interest and to examine the potential risks and benefits of retail competition.

In Docket E-20690A-09-0346 the commission needed to determine whether SolarCity is “acting as a public service corporation pursuant to Article 15, Section 2 of the Arizona Constitution” when it provides solar services to Arizona Schools, government and non-profit entities. The issue was whether these services should be regulated since the definition of a “public service corporation” is one furnishing electricity to the public. If the ACC determined that light-handed regulation was needed of those who provided solar service sales to consumers, then this could lay groundwork for competitive sales of green energy in a utility's service area.

In a December 2010 order, the ACC found that utilities can request decoupling in its next rate case to account for the financial disincentives of energy efficiency programs, including “revenue per customer decoupling.”

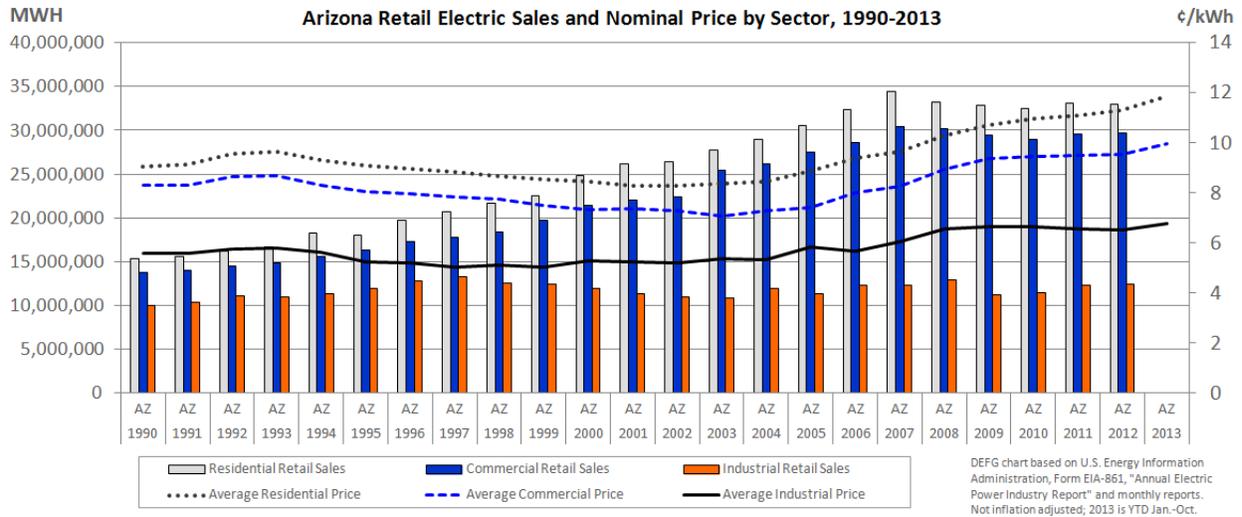
In May 2012, the ACC approved the Arizona Public Service Company's rates in Docket E-01345A-11-0224, which calls for no increase in base rates for four years and zero percent bill impact for remainder of 2012, allowing for rate relief during the high energy usage associated with summer months. It also allowed APS to go forward with a new experimental buy-through rate that will be open to all large customers (>10 MWs) who meet certain qualifications.

In early 2013, the five elected commissioners at the ACC stated that they have the authority to re-open retail access along the outlines set forth in late 1990s (add citation) and they opened an inquiry. Comments and replies to comments were filed in mid-July and mid-August, 2013. Many of the parties described electricity restructuring as either very good or very bad for Arizona. Commissioner Brenda Burns recommended informal meetings to explore these issues further and Commissioner Bob Burns recommended an evidentiary proceeding to get facts, under oath, that the commissioners can use to make decisions.

Among the significant issues affecting a decision was the coal plant operated by the Navaho Nation. The power plant is very important to jobs in that part of the state. There was an ongoing concern about what would happen to the smallest and most vulnerable consumers with regard to prices increases and decline in service. There was concern that setting up an ISO and investing in transmission would be expensive, there were concerns about resource adequacy.

Counsel for the ACC told the commissioners that the Phelps Dodge decision presented "insurmountable obstacles" because the ACC lacked constitutional authority to implement retail choice, and lacked the ability to order utilities to divest themselves of generating units. The Arizona constitution has specific language about the “fairness” of rates which would be difficult to surmount in a competitive realm. Ultimately the commissioner voted to close the proceeding and end speculation that Arizona might reopen retail access in the near term.

Information for consumers about electricity restructuring on the ACC website is very weak. The available information is out of date, and there is no effort to bring people up to date about the 2013 inquiry, not even a press release.



California

The California Public Utilities Commission (CPUC) issued a report in 1993 (Yellow Book) and an order in 1994 (Blue Book) that addressed regulation and restructuring. In 1995 the CPUC issued a decision (Preferred Policy Decision), and in September 1996, Assembly Bill 1890 was enacted to start retail access January 1998 (delayed to April 1998). The legislation included a separation of transmission operations (with ISO) and operation of the wholesale market (PX). Approximately 14% of load was served by competitive energy service providers by 2000. California experienced setbacks with its wholesale markets that affected retail prices and resource availability. Because of supply shortages, wholesale market prices were extremely volatile. San Diego Gas & Electric Company had completed its stranded cost recovery in 1999, and could therefore pass wholesale prices to retail customers. In contrast, Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE) paid high wholesale prices, but incurred significant debt because they were not allowed pass high wholesale prices to retail customers.

In January 2001, PG&E filed for bankruptcy protection. Subsequently, the State of California Department of Water Resources (DWR) purchased power on behalf of the utilities. (Authorized by emergency legislation AB 1X, February 1, 2001, this state procurement lasted until 2003.) In March 2001, the Federal Regulatory Energy Commission ordered suppliers to make refunds to utilities. On June 18, 2001, FERC voted to impose price controls on wholesale electricity prices for California and ten other Western states.

On September 20, 2001, in Decision 01-09-060, the retail access provisions of AB 1890 were suspended by the CPUC. Direct access contracts signed before September 20 were allowed to continue until their expiration. These direct access customers were charged Cost Responsibility Surcharges for costs incurred by the State and utilities during the energy crisis (Decision 02-11-022). As of February 2008, there were 18,700 residential direct access customers (0.2%) in California. In 2002, AB 117 passed to amend the Utilities Code to allow community choice aggregation with an "opt out" provision. In April 2007 the CPUC authorized the first community choice aggregation application.

In May 2007, the CPUC determined that it would investigate the potential to reopen the retail market for direct access (Rulemaking 07-05-025). The CPUC determined that it did not have authority to reinstitute direct access. (Phase I of the proceeding focused on legal issues. Since power is supplied when delivered to a retail customer, the DWR is still "supplying power" under the Water Code §80110.

DWR still holds power contracts, has title, and receives payment. Although DWR no longer has contracting authority, it still administers contracts and “sells electricity” under existing contracts, therefore, the CPUC must extricate DWR from that role prior to the reopening of the direct access market.) On February 25, 2008, the CPUC said it would consider steps to enable lifting the suspension. In a February 28, 2008 press release, CPUC President Peevey stated: “The suspension of choice cannot be lifted until DWR no longer supplies power through the contracts that were signed during the energy crisis. Accordingly, the CPUC can and should evaluate the merits of ways to extricate DWR from its current role as supplier of energy under those existing contracts. After that the CPUC can proceed to the question of whether and how to reinstate Direct Access.” Phase II of R.07-05-025 considered the public policy merits and prerequisites to reopening direct access. On February 4, 2009, the CPUC set the membership roster for the Working Group established to develop protocols and strategies for negotiating power contracts to replace DWR with the IOUs “in accordance with the principles and directives set forth in Decision 08-11-056.”

In October 2009, Governor 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. Electric sellers are subject to the Renewable Portfolio Standard, AB 32 greenhouse gas reduction compliance, and must have adequate electric supplies. Direct access sales can increase to the historically highest amount of annual direct access sales for each utility. In its March 11, 2010 decision on direct access, the CPUC ordered revised caps on direct access transactions to be phased in over four years.³⁹ This will allow the current cap of about 11% to rise to about 14%. Attention now turns to the details relating to cost responsibility for procurement of specific resources (reliability projects and renewable resource procurement).

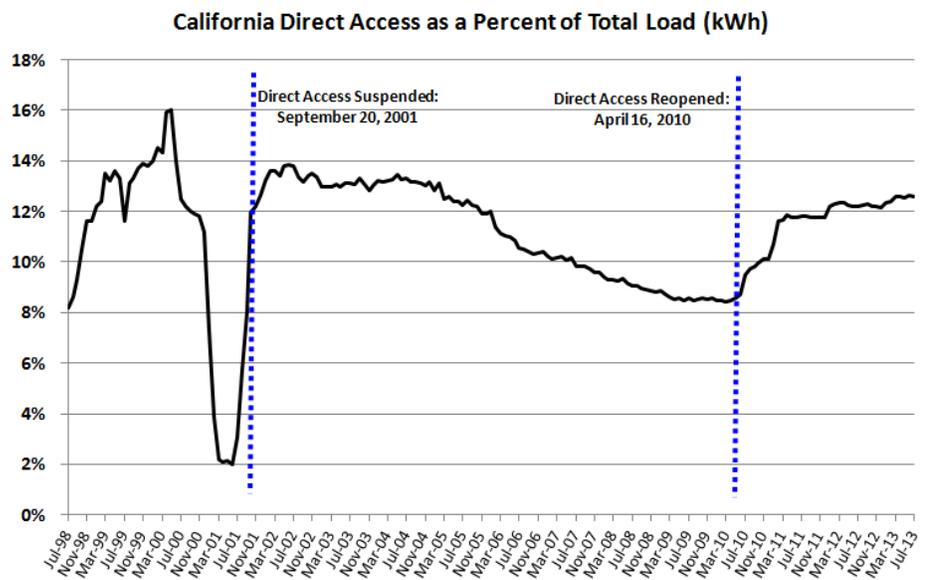
In May 2012, Docket No. 10-03-022, Ordering Paragraph 1 reads, in part: "The Energy Division is authorized to post each utility's monthly baseline amount of direct access load, as reported in their Direct Access Implementation Activities Reports, on the Commission's public web." The Direct Access load caps for each utility can be exceeded by 10% in 2012. While participation of small customers (residential and small commercial) is small, more than 12% of the electricity sales in the state are provided through direct access suppliers.

Residential customer participation is growing in California through community choice programs which have been approved by the voters in each community. In 2002 the California Legislature passed Assembly Bill 117 which added to the Public Utilities Code that customers within a defined jurisdiction shall be entitled to aggregate their electric loads and to contract for power from alternative energy suppliers. “Community Choice Aggregation” customers have the choice to either stay with the utility, join a community choice aggregator, or opt out of the program. Through various CPUC decisions there exist two operating CCAs: San Joaquin Valley Power Authority and the Marin Energy Authority. In terms of recent success, the CPUC Decision D. 12-11-015 appropriately empowered the Marin Energy Authority to administer its respective energy efficiency programs and provide an opportunity for Community Choice Aggregation to work cooperatively with utilities.

³⁹ CPUC Rulemaking 07-05-025, Rulemaking regarding whether, or subject to what conditions, the suspension of Direct Access may be lifted consistent with Assembly Bill 1X and Decision 01-09-060, Decisions Regarding Increased Limits for Direct Access Transactions, http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/114976.pdf

California Number of Suppliers in the Market October 2013	Residential	Nonresidential
Pacific Gas & Electric	0	19*
San Diego Gas & Electric	0	15*
Southern California Edison	0	18*
* Registered providers		

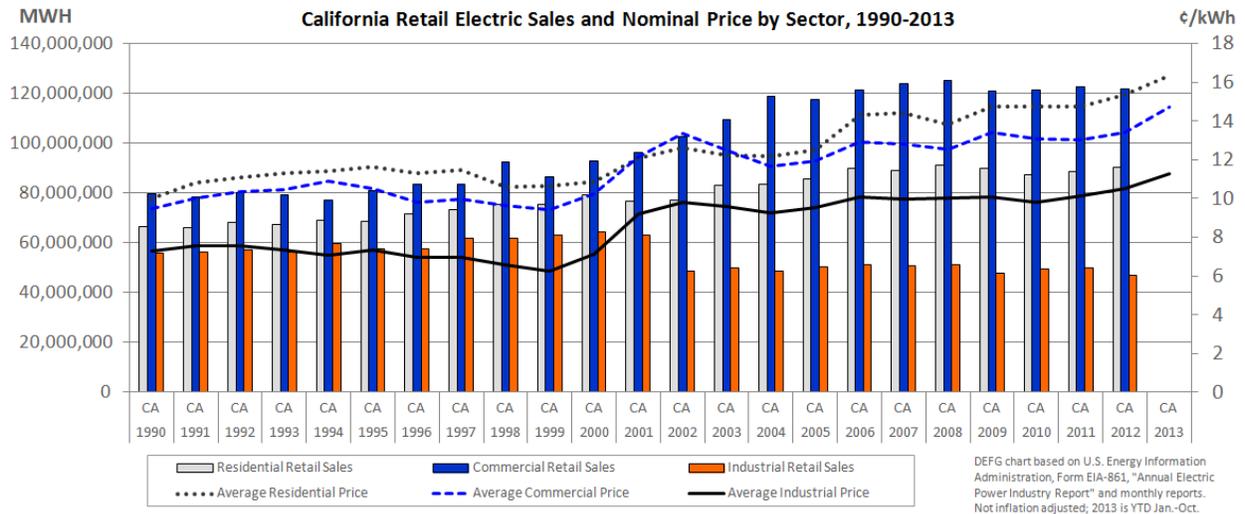
Statewide direct access measure by load (kWh) increased from 8.6% in 2009 to 12.6% in 2013. The chart at right displays changes from 1998 to 2013.⁴⁰



As of July 31, 2013, a total of 10,783 residential customers (households) in California received competitive electric service.

California Percent of Customer Switching August 2013	Percent of Residential Customers	Percent of Small Commercial (<20 kW) Sales (MWH)	Percent of Medium Commercial (20 - 500 kW) Sales (MWH)	Percent of Industrial (> 500 kW) Sales (MWH)	Percent of State Sales (MWH)
State Total	0.1%	1.5%	16.6%	34.2%	12.6%

⁴⁰ Enhanced CPUC chart from these data:
<http://www.cpuc.ca.gov/PUC/energy/Retail+Electric+Markets+and+Finance/Electric+Markets/Direct+Access/thru2008.htm>



Connecticut

The Act Concerning Electric Restructuring (HB 5005) was signed into law April 1998. The law required divestiture of nuclear assets, participation in an ISO, functional unbundling, a renewable portfolio standard, a 10% rate reduction, and a rate cap until 2000. The utilities filed divestiture plans and there was some uncertainty with respect to the amount of stranded costs. Few competitive retailers entered the state. The Department of Public Utility Control (DPUC) set restrictions on switching back to standard offer service – a 12 month switching moratorium was instituted.

Rate caps ended and rates increased in 2004-05. In June 2006, DPUC passed regulations requiring Connecticut utilities to hold multiple auctions for standard offer power supply.

In 2007 the Connecticut General Assembly passed legislation allowing utilities (which had been divested of generation after the 1998 restructuring bill) to construct regulated peaking units. In March 2008, Connecticut Power and Light (CP&L) filed for permission to build four 50 MW units and two 32.5 MW units, scheduled to come into service in 2010. In late January 2008, CL&P rates were approved by the DPUC in Docket Nos. 07-07-01 and 03-07-02RE10.

Connecticut regulators have limited utility requests to permit long-term power contracts as a hedge against future cost increases. The regulators recognized the risks associated with hedging and the consequences for retail competition: long-term contracts which turn out to be higher than market prices place a burden on consumers; long-term contracts which turn out to be lower than market prices can freeze competitors out of the marketplace. Connecticut relies on “laddering” for resource procurement – buying small blocks of power over time and blending the results. Quarterly bids for tranches of approximately 10% of the load are used to provide the two largest utilities with sufficient resources for standard service and last resort service.

In 2008, Connecticut passed Public Act No. 08-98, *An Act Concerning Connecticut Global Warming Solutions*, concerning climate change. Connecticut law requires the state to create a greenhouse gas inventory and to reduce greenhouse gases by 10% by 2020 and 80% by 2050.⁴¹

In February 2007 the governor proposed a new state department of energy to work on energy policy and renewable resources. The state has a three-tier resource portfolio standard that includes renewable resources and energy efficiency. There is also an emphasis on distributed generation to address capacity needs in the southwestern corner of the state. April 18, 2008, Governor Rell signed the Governors' Declaration on Climate Change, joining 17 states to urge federal-state cooperation and federal support.

In 2011, Connecticut passed Public Act 11-80, *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future*, which reconstitutes the Connecticut Energy Advisory Board (CEAB) and modifies its mission as of July 2011. The CEAB report to the General Assembly on the status of programs administered by the Department of Energy and Environmental Protection, including energy conservation, integrated resource planning, and renewable portfolio standards.

Connecticut Light and Power Company (CL&P) and United Illuminating Company (UI) are required to procure Class I renewable energy credits (RECs)¹ under 15-year contracts with owners or developers of renewable energy projects. On December 9, 2011, CL&P and UI submitted to the Public Utilities Regulatory Authority a joint petition which includes their proposed six-year Solicitation Plan which includes a plan to enter into 15-year contracts for the purchase of \$1.02 billion of RECs directly from customers, site owners and/or developers of clean energy.⁴²

The Connecticut Legislature attempted and failed to pass a retail auction of Standard Service customers during the 2013 legislative session.

Connecticut Number of Suppliers and Products in the Market October 2013	Residential Suppliers	Residential Products	Nonresidential Suppliers
Connecticut Power & Light	23	68	17
United Illuminating	23	68	17

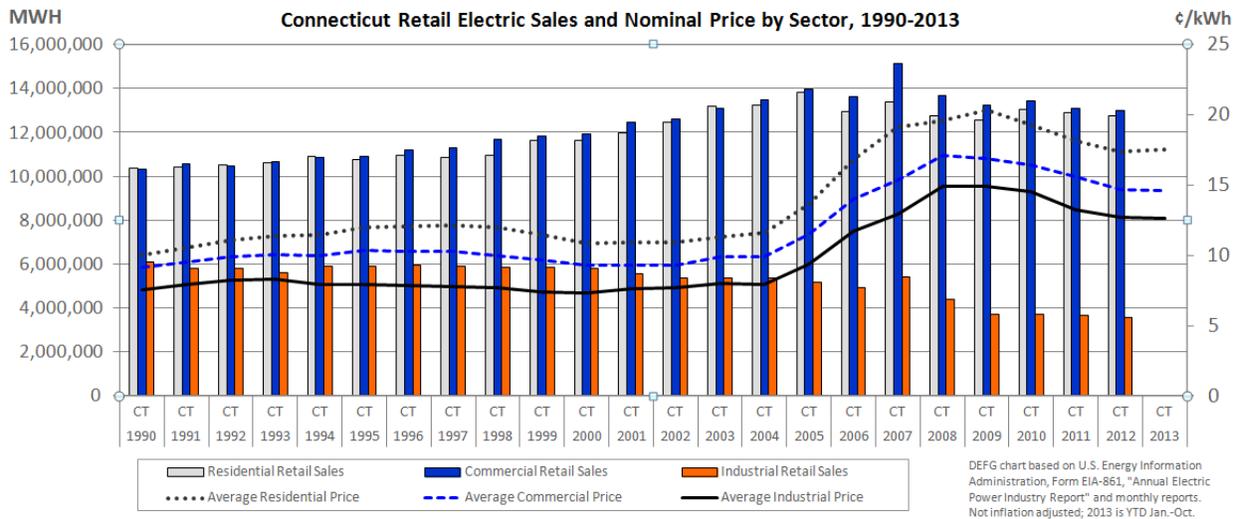
Residential switching has increased significantly from 6.6% of customers in 2008, to 17.7% in 2009, to 32.1% in 2010, to 40.6% in 2011, to 44.1% in 2012. It decreased slightly to 43.5% in 2013. Business customer switching also decreased slightly.

As of September 30, 2013, a total of 604,754 residential customers (households) in Connecticut received competitive electric service.

⁴¹ See: <http://ctclimatechange.com/index.php/learn/mitigation/>

⁴² Docket No. 11-12-06 (Joint Petition of CL&P and UI), April 4, 2012. See: http://www.ct.gov/deep/lib/deep/press_releases/2012/2012april4lzrecdecision.pdf.

Connecticut Percent of Customer Switching September 2013	Percent of Residential Customers	Percent of Small Business Sales (MWH)	Percent of Large Business Sales (MWH)	Percent of Statewide Sales (MWH)
Connecticut Light & Power	42.5%	78.6%	84.9%	65.3%
United Illuminating	47.1%	75.6%	93.7%	71.0%
State Total	43.5%	78.0%	86.7%	66.4%



Delaware

In March 1999, Delaware enacted legislation (HB 10) mandating electric restructuring and a rate cut of 7.5% for most electric customers. Larger customers of Connectiv Power were eligible for choice October 1999, medium customers January 2000, and all residential and commercial customers became eligible October 2000 (26 Delaware Code, Chapter 10). In April 2001, Delaware Electric Cooperative's customers became eligible for the choice plan. Rate caps were lifted for Delaware Electric Cooperative in March 2005 and rates increased 8%.

Delmarva Power & Light Company merged with Potomac Electric Power Company (PSC Docket No. 01-194) and the PSC (Order No. 5941 signed April 16, 2001) approved a rate cap extension for customers of Delmarva Power & Light Company until May 1, 2006. In October 2004, the Commission opened PSC Docket No. 04-391 to determine which company would provide standard offer service (SOS) in Delmarva Power service territory after May 2006. Delmarva Power was selected. The Request for Proposal process results in one third of the power need acquired annually to reduce price volatility.

The Electric Utility Retail Customer Supply Act of 2006 requires Delmarva Power to file a proposal for long-term supply contracts. Electric distribution companies are designated as the standard offer service supplier in their territories. Electric distribution companies "enter into long- and short-term supply

contracts, own and operate generation facilities, build generation and transmission facilities, make investments in demand-side resources” to diversify resources. On December 4, 2007, the Commission entered PSC Order No. 7318 to propose and take comments on Integrated Resource Planning regulations. IRP has a forward-looking 10-year time frame and is filed every two years starting with December 1, 2006.

In July 2012, the Delaware Public Service Commission issued Order No. 8187 to make rule changes to make electric choice more competitive, including changes to provide additional protection for customers, require electric suppliers to include additional details regarding the rates, terms, and conditions of service in their offers, and to make the certification process for Electric Suppliers more uniform. Stakeholder workshops were held in August and October 2012. Staff will propose amendments Supplier Rules and may propose changes to the SOS procurement process under PSC Docket No. 04-391. The Commission will then consider whether to accept the proposed amendments and/or revisions and create new rules.⁴³

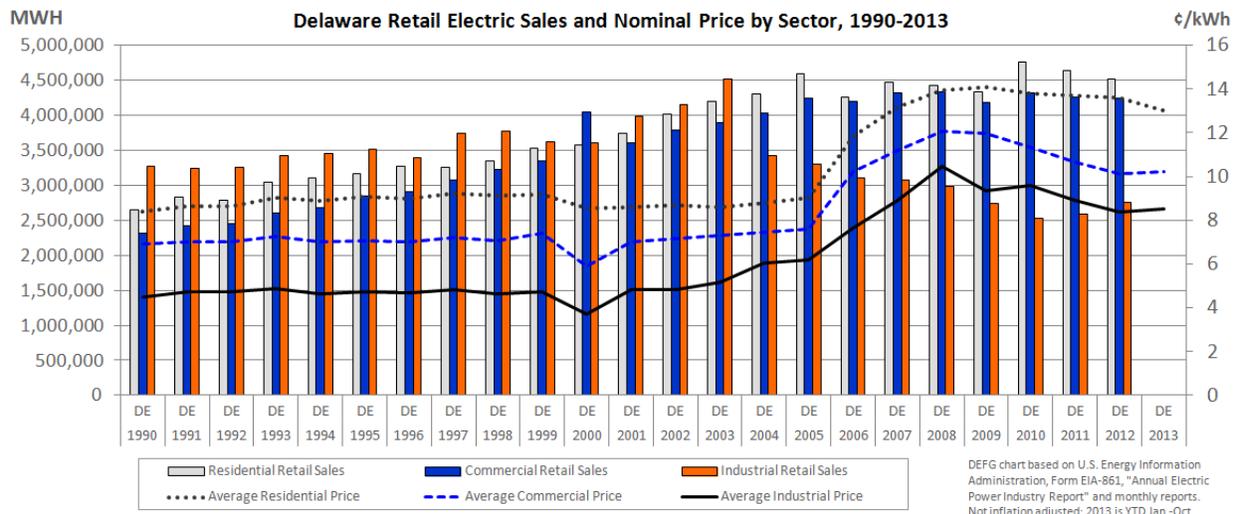
Delaware Number of Suppliers in the Market September 2013	Residential	Residential Products*	Nonresidential
Delmarva Power Electric	11	11	31
* Based on number of suppliers. No list provided.			

Residential switching nearly doubled in the past year to 8.4%. Nonresidential load switching increased from 68.6% in 2009 to 82.5% in 2013.

As of September 27, 2013, a total of 22,625 residential customers (households) in Delaware received competitive electric service.

Delaware Percent of Customer Switching September 2013	Percent of Residential Customers	Percent of Nonresidential Sales (MWH)	Percent of Statewide Sales (MWH)
State Total	8.4%	82.5%	56.4%

⁴³ See: <http://www.depsc.delaware.gov/orders/8187.pdf>.



District of Columbia

The 1999 Retail Competition Act provided authority for retail choice. The District of Columbia Public Service Commission (DCPSC) issued Order Nos. 11576 (December 1999) and 11796 (September 2000) to allow all residential and commercial customers to choose an alternative electric supplier effective January 2001. Potomac Electric Power Company (PEPCO) is the sole electric distribution company. At the end of 1999, PEPCO made a decision to divest itself of generating units. A Code of Conduct working group was created in 2000 to work on competitive safeguards, with an interim decision to adopt Maryland's Code of Conduct, and a longer-term effort to develop a DC-specific Code of Conduct. DCPSC orders issued in 2001 addressed customer education, new electric supplier tariffs, and interim customer aggregation standards.

In 2002, the DCPSC issued an order and report on a Municipal Aggregation Program. The DCPSC also approved the PEPCO/Connectiv merger subject to conditions. Divestiture resulted in a sharing of proceedings with customers (the typical household received \$80.42 of divestiture sharing credits in 2002). PEPCO has moved toward a holding company structure.

In 2003-04, the DCPSC examined the standard offer service (SOS) process (Order Nos. 12655 and 13118), including whether PEPCO should continue to provide SOS because its obligation to serve was set to expire at the end of 2004. A new process was adopted that relied on wholesale market prices to a greater degree. In March 2006, PEPCO filed for rates increases for SOS of about 10% to 12%. In July 2006, the DCPSC issued Order No. 14006 to adopt improvements in the procurement process for SOS, and to consider the benefits of a portfolio approach.

A Renewable Energy Portfolio Standard Act was enacted in 2005 which will require suppliers to acquire 11% of their energy from renewable resources by 2022. The DCPSC has increased the amount of information available to customers regarding energy efficiency.

The Clean and Affordable Energy Act of 2008 defines a Sustainable Energy Utility with authority to lower per capital energy use, increase the use of renewable energy resources, create "green collar jobs" and meet other objectives in the District of Columbia.

On June 1, 2012, the DCPSC approved the results of a competitive auction for electricity supply that will result in lower rates for SOS customers in March 2013. An electric bill for a residential SOS customer will decrease by 5.6% or about \$4.89 per month for the average user of 685 kWh/month. The residential

SOS summer rate declines from 9.7 to 8.7 cents per kWh, and the winter rate declines from 9.2 to 8.6 cents per kWh. Pepco’s SOS Program is the default source of electrical energy for customers who have not chosen to purchase power through a certified competitive provider. The SOS Program is administered by Pepco under rules established by the PSC.⁴⁴

District of Columbia Number of Suppliers in the Market August 2013	Residential	Residential Products	Nonresidential
District of Columbia	12	32	21

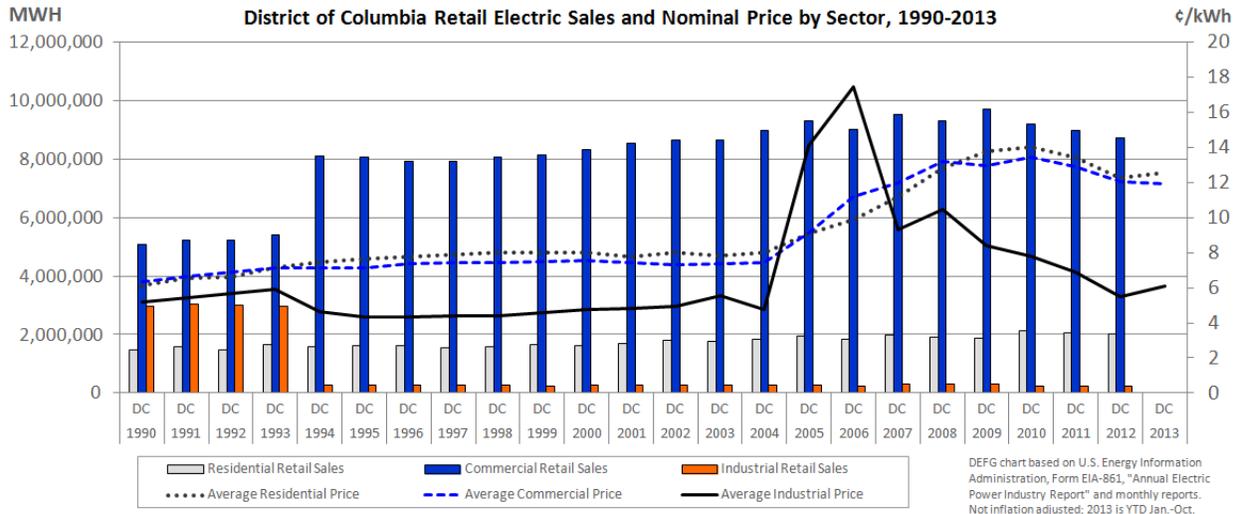
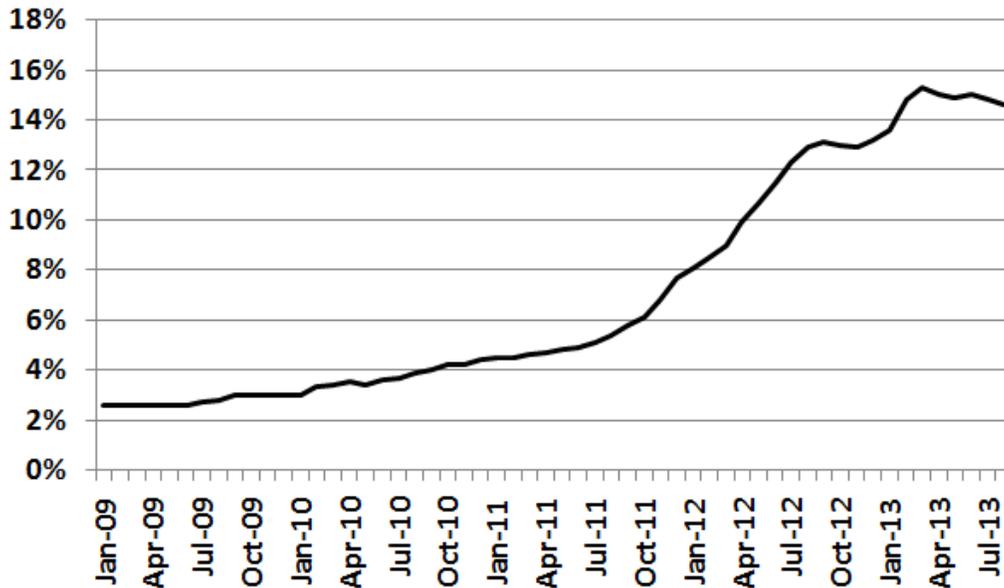
During the early period for switching (between September 2002 and December 2003), residential customer switching was between 10.2% and 11.9% in DC. By August 2009, it had fallen to 2.8%. Residential switching then increased to 14.6% by 2013. Nonresidential switching has been flat at about 80-83% for several years.

As of August 2013, a total of 33,873 residential customers (households) in the District of Columbia received competitive electric service.

District of Columbia Percent Switching August 2013	Percent of Residential Customers	Percent of Nonresidential Sales (MWH)	Total of District (MWH)
District Total	14.6%	83.5%	65.4%

⁴⁴ See: http://www.dcpssc.org/pdf_files/hottopics/PR_PSC_Announces_Lowers_SOS_Rates.pdf.

Percent Residential Switching in DC



Illinois

In December 1997 and again in September 1999, the Illinois Public Utilities Act was amended (P.A. 90-0561, Electric Service Customer Choice and Rate Relief Law of 1997, HB 362). Large customers were allowed to choose their supplier in 1999, and other nonresidential customers were allowed to choose in 2000. The initial decision to give residential retail choice (in 2002) was moved up to a late-1999 to late-2000 phase in. The amendments also mandated rate cuts of 15% in 1998 and 5% in 2001. Other provisions promoted cogeneration and allocated \$250 million to special environmental initiatives and to an energy efficiency fund. Rates were capped until 2005, providing relatively little incentive for mass market customers to switch. In 2002, the Illinois General Assembly extended the rate cap to January 1, 2007 (P.A. 92-357).

In late 2002, the Illinois Commerce Commission (ICC) eliminated the regulated rate for customers above three megawatts. As of the end of 2006, nearly 28,000 commercial and industrial customers have chosen to take delivery service from a retail electric service provider other than the utility, totaling approximately 28,500 GWH for that year. ("Summary of Annual Reports Filed by Electric Utilities Regarding the Transition to a Competitive Electric Industry: Required by Electric Service Customer Choice and Rate Relief Law of 1997", May 2007 (220 ILCS5/16-130) (1999).)

In 2007, Public Act 095-0481 created an independent agency, the Illinois Power Agency (IPA), to develop and manage a new electric supply procurement process for customers of Ameren Illinois and ComEd, and amended the Illinois Public Utilities Act to return certain rates to 2006 levels. Rate relief to residential and certain nonresidential customers of ComEd and Ameren utilities began in September and October that year, and were applied to customer accounts through 2009. The IPA is responsible for overseeing the procurement of power and energy for retail customers who receive fixed-price bundled service from electric utilities with 100,000 or more customers (220 ILCS 5/16-111.5(a)(2007)). The IPA is to prepare a plan, by August 15 of each year, to procure the necessary energy and power in the following year (220 ILCS 5/16-111.5(b)(2007)). After overseeing the procurement of electric supply, the IPA directs the utilities to enter into wholesale electric supply contracts of various duration to purchase electric supply from different sources.

The Illinois Power Agency Act also declared services in ComEd and Ameren whose peak demand is above 400 kW to be competitive as of August 2007 (220 ILCS 5/16-113(f)). ComEd customers who have peak demand above 400 kW were allowed to take bundled service until June 2008. ComEd customers who have peak demand between 100 kW and 400 kW are allowed to take bundled service until June 2010. Ameren customers with peak demand is above 1 MW were able to take bundled service until June 1, 2008, and customers with peak demand between 400 kW and 1 MW can take bundled service until June 1, 2010. Electric utilities are able to obtain determinations of competition for the customers who have peak demand between 100 kW and 400 kW if they can demonstrate that at least 33% of the customer's in the service area are eligible to take service from an alternative retail electric supplier and that at least three alternative retail electric suppliers provide comparable service (220 ILCS 5/16-113(g)(2007)).

In April 2008, utilities in Illinois started offering net-metering (83 IL. Admin. Code Part 465) to eligible customers, that is, to retail customers who own or operate a solar, wind, or other eligible renewable electrical generating facility with a rated capacity of 2 MW or less. In addition, the ICC has initiated a rulemaking (Docket No. 06-0525) that will set standards for interconnection of direct generation to the distribution network (83 IL. Admin. Code Part 466).

Illinois created an Office of Retail Market Development (ORMD) which prepared its first annual report in July 2008 pursuant to the requirements of Section 20-110 of the Illinois Public Utilities Act. The report presents Illinois' progress in addressing barriers to competition. The ORMD is engaging all stakeholders to ensure that the barriers to residential choice are addressed, determine how to raise awareness among consumers about the right to choose an alternative electricity supplier and determine how to create an independent source of information for small consumers. The ICC website describes the ORMD responsibilities as follows: ORMD was created pursuant to Public Act 094-1095 because the Illinois General Assembly recognized that in order "for Illinois consumers to receive products, prices and terms tailored to meet their needs, a competitive wholesale electricity market must be closely linked to a competitive retail electric market." The Act directs the ORMD to "actively seek input from all interested parties and to develop a thorough understanding and critical analyses of the tools and techniques used to promote retail competition in other states. The Office shall monitor existing competitive conditions in Illinois, identify barriers to retail competition for all customer classes, and actively explore and propose to the Commission and to the General Assembly solutions to overcome identified barriers."

In October and November 2008, staff of the ICC conducted workshops on energy efficiency and demand response and recommended that no rulemaking was necessary. Staff stated that handling the issues on a case-by-case basis was best given that the stakeholders are on a learning curve. The staff report describes the issues that are necessary in a future rulemaking.

Section 16-111.5 of the Illinois Public Utilities Act contains various provisions relating to the procurement of the electricity by the largest of Illinois' electric utilities. Sub-section (e)(1) provides that, "The procurement administrator shall disseminate information to potential bidders to promote a procurement event, notify potential bidders that the procurement administrator may enter into a post-bid price negotiation with bidders that meet the applicable benchmarks, provide supply requirements, and otherwise explain the competitive procurement process. In addition to such other publication as the procurement administrator determines is appropriate, this information shall be posted on the Illinois Power Agency's and the Commission's websites."⁴⁵

Both Ameren Illinois and ComEd offer a real time pricing (RTP) option to help residential customers. As with many tariffs labeled "real time," a series of hourly prices for electricity are posted one day in advance so that residential consumer who choose this option can determine the best time to operate appliances during the upcoming 24 hours. The real time pricing option requires a special meter.

The current utility electric supply prices are in effect until May 31, 2014. In the spring of 2014, the IPA will again direct the utilities to purchase electric supply, which will result in new utility electric supply prices for the period June 1, 2014 and beyond. Future IPA-administered electric supply purchases by the utilities are expected to occur each spring. The ICC has the flexibility to approve a plan that would purchase electricity at multiple times during the year, which could mean that charges for utility electric supply could change more than once a year. Shortly after the conclusion of the spring procurement events, Ameren and ComEd revise the base level of retail charges through which the costs of electricity and RECs are recovered from customers. Actual revenues and costs are monitored on a monthly basis, and rates are adjusted, as necessary, to minimize the accumulation of a revenue-cost imbalance. An annual audit and reconciliation proceeding is also held.⁴⁶

Under the IPA staff-proposed procurement plan, the mix of resource would involve less hedging. The current hedging strategy of 100% hedged for the first year, 70% hedged for the second year, and 35% hedged for the third year, would be replaced with 75% hedged in the first year, 50% in the second year, and 25% in the third year. This would help deal with the risk associated with retail customer migration.⁴⁷

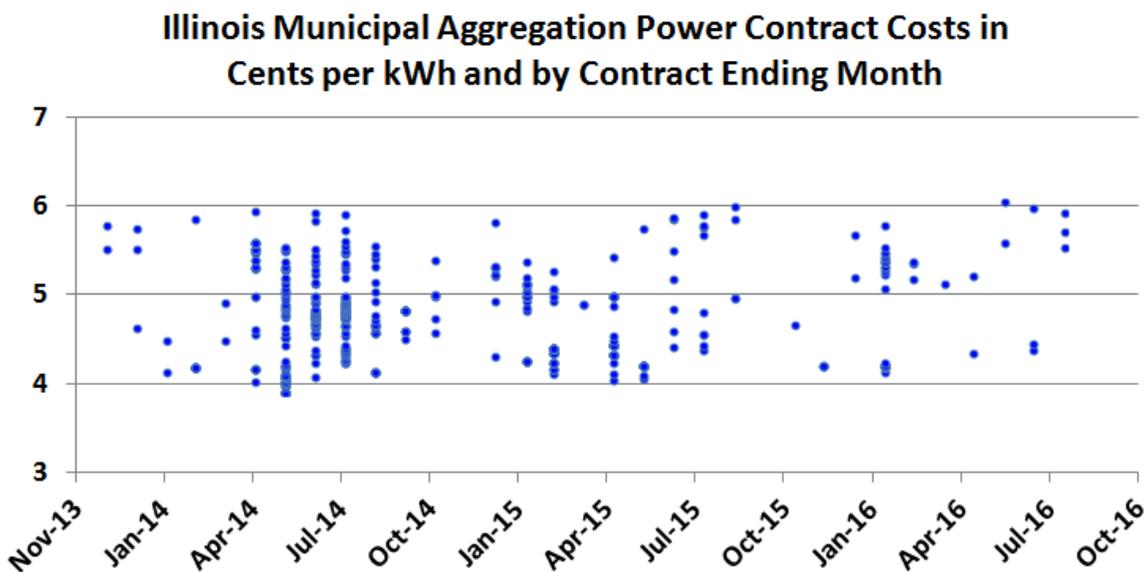
Municipal aggregation. Public Act 96-0176 amended the Illinois Power Agency Act effective January 1, 2010 to allow municipalities and counties to aggregate electrical load. Municipal corporate authorities and county boards can adopt an ordinance to aggregate residential and small commercial electrical loads and solicit bids for the sale and purchase of electricity. A referendum is required to determine whether or not the aggregation shall be an opt-out program. In March 20, 2012, 306 communities voted on opt-out aggregation referenda, with 245 referenda passing.

⁴⁵ Electricity Procurement Processes links are provided here for each year:
<http://www.icc.illinois.gov/electricity/ElectricityProcurement.aspx>.

⁴⁶ ORMD Annual Report, June 2012, <http://www.icc.illinois.gov/reports/>.

⁴⁷ See p. 3: <http://www.icc.illinois.gov/downloads/public/2013%20Procurement%20Plan%20FOR%20PUBLIC%20COMMENT%208-15%2011.pdf>.

By October 2013, 672 municipalities in Illinois participated in aggregation programs. The contracts were arranged for periods extending as far out as mid-2016. The following chart displays the power costs as a function of when the contract expires.



The ICC is also working on the interconnection of distributed generation,⁴⁸ and the fostering of coordination and administrative efficiency in the provision of mandated energy efficiency programs.⁴⁹

Illinois Number of Suppliers in the Market September 2013	Residential Suppliers	Residential Products	Nonresidential Suppliers
Ameren Zone I	13	27	29
Ameren Zone II	12	25	29
Ameren Zone III	13	27	29
ComEd	32	74	57

Residential customer switching began to increase in 2011 (to about 2%), and then increased dramatically in 2012 to 22.37%. As of November 2013, more than three million residential consumers take power from a competitive supplier (see chart below, derived from data on the Plug In Illinois website and

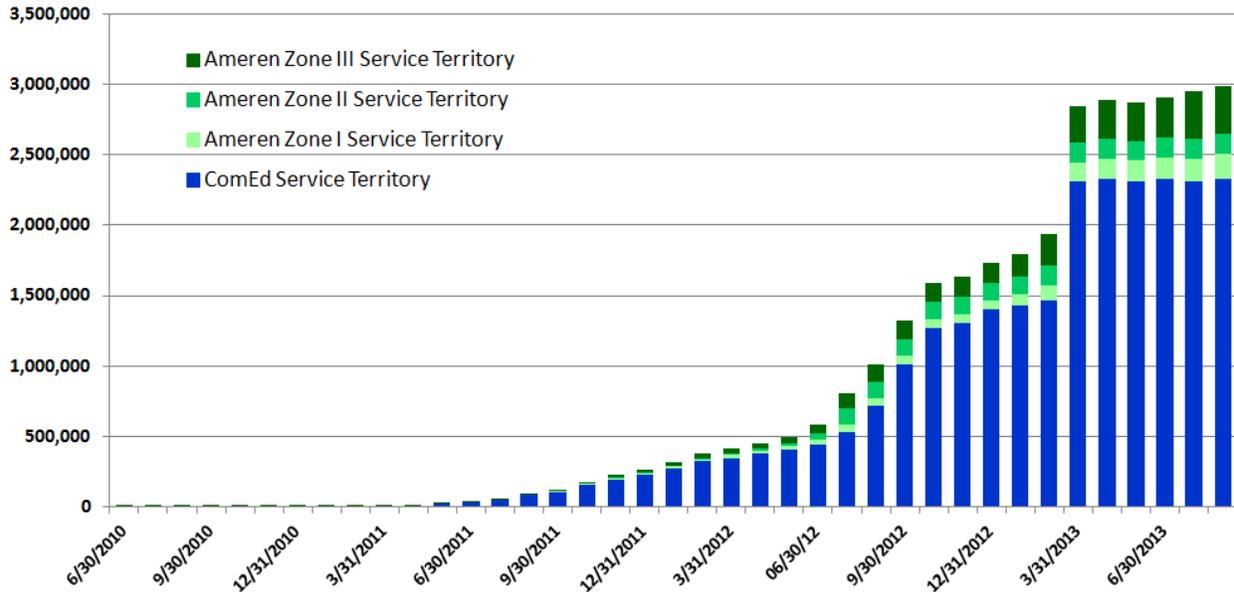
⁴⁸ See: <http://www.icc.illinois.gov/Electricity/DGInstallerCert.aspx>.

⁴⁹ See: <http://www.icc.illinois.gov/Electricity/EnergyEfficiencyCoordination.aspx>.

detailed utility reports). The ORMD staff of the Illinois Commerce Commission estimates that, as of May 2013, about 22% of the switching reported for residential consumers in Illinois is not due to aggregation.

As of November 30, 2013, a total of 3,077,067 residential customers (households) in Illinois received competitive electric service.

Number of Residential Customers in Illinois Taking Service From a Retail Electric Supplier, 2010-2013

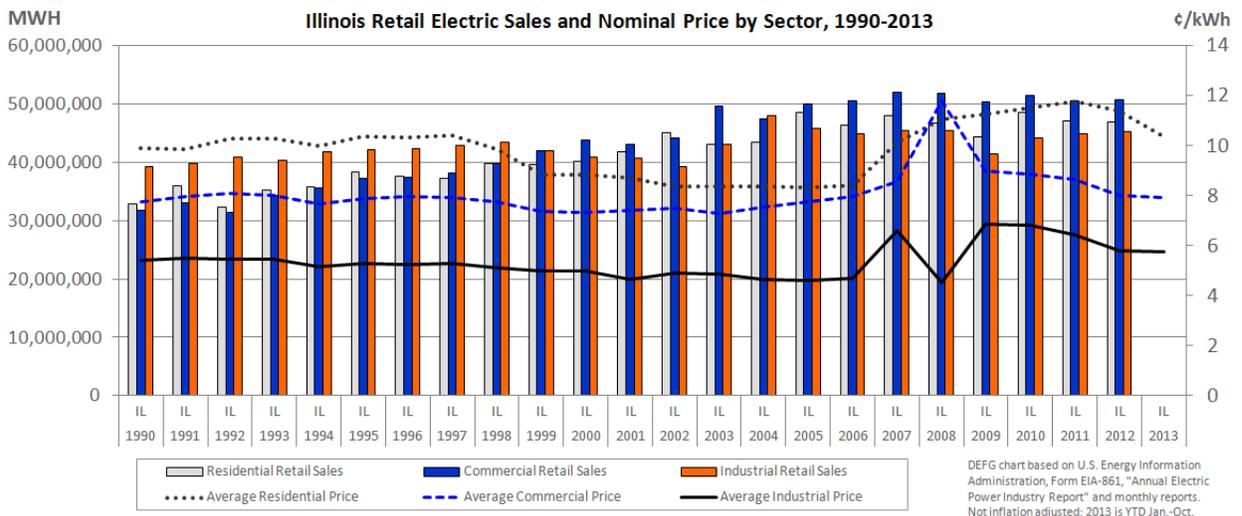


DEFG graphic derived from data downloaded from the Plug In Illinois website. Accessed Oct. 15, 2013: <http://www.icc.illinois.gov/downloads/public/Residential%20Switching%20Stats%20for%20PlugIn.xls>

Small to medium C&I customer switching rose in the state from 50.2% in 2008 to 80.71% in 2012, and large (> 1 MW) C&I customer switching has been stable with about 93% over the past five years. The reporting methodology in Illinois presents customers grouped by their peak usage and switching by their annual sales.

Illinois Percent Switching November 2013	Percent of Residential Customers	Percent of Small C&I Sales (MWH) (< 25 kW)	Percent Medium C&I Sales (MWH) (25kW-1MW)	Percent Large C&I Sales (MWH) (> 1 MW)	Percent Total Load (MWH)
Commonwealth Edison Company**	69.9%	63.5%	84.1%	96.8%	81.5%
Ameren Rate Zone I*	56.1%	60.4%	81.5%	82.3%	73.3%
Ameren Rate Zone II*	76.1%	62.0%	82.5%	91.5%	83.2%
Ameren Rate Zone III*	64.4%	62.2%	82.6%	92.9%	80.7%
MidAmerican Energy Company	0.0%	0.0%	0.0%	0.0%	0.0%
Mt. Carmel	0.0%	0.0%	0.0%	0.0%	0.0%
State Total	68.5%	63.0%	83.7%	93.9%	80.6%

* Ameren Rate Zone I was formerly AmerenCIPS (Central Illinois Public Service), Ameren Rate Zone II was formerly AmerenCILCO (Central Illinois Light Company) Ameren Rate Zone III was formerly AmerenIP (Illinois Power Company).
** Small C&I is 0-100 kW for ComEd.



Maine

In May 1997, the Maine Legislature passed Directive 1804 to require divestiture of utility generation assets and initiate retail choice in March 2000. The Legislature imposed a 33% market share cap on

investor-owned utilities in their old service areas, and instituted a renewable energy portfolio requirement of 30% (including hydroelectric power). Maine's law (Title 35-A, Chapter 32: Electric Industry Restructuring), allows retail consumers to purchase electricity supply from licensed competitive electricity providers, and requires customers not served competitively to accept standard offer electricity regulated by the Maine Public Utilities Commission (MPUC).

The MPUC has considered bids for resources to serve default customers. In 1999, the MPUC rejected bids and reissued a request in 2000 under amended rules in an attempt to attract more bidders. The MPUC set standard offer rates and ordered Central Maine Power to provide standard offer service from March 2000 to March 2002 for medium and large nonresidential customers. The MPUC also approved a transmission/distribution rate scheme for restructuring submitted by Maine Public Service Company (in far northern Maine, and isolated on the grid) that separated MPS's revenue requirements into a transmission component under FERC jurisdiction and a distribution component under MPUC jurisdiction.

The MPUC revisited standard offer service in 2002. To further connect the standard offer to market prices, the MPUC shortened the time period for its current medium and large standard offer categories to six months. That is, the winning bid sets the standard offer at start of the six-month period, with prices changing each month. In December 2002, the MPUC reported to the legislature that retail access had been a success for commercial and industrial customers in Maine, and that some residential customers had switched to renewable resource suppliers. At that time, 47% of the electricity in Maine was bought from competitive suppliers—the highest percentage in the nation. The MPUC stated that until retail markets mature, the legislature must keep standard offer service in place beyond the scheduled termination date of March 2005.

In late 2004, an auction produced standard offer rates with a nearly 30% increase in the generation price due to conditions in the wholesale market. In more recent auctions, the MPUC goes to the market each year for one-third of the load in a three-year contract. In January 2008, the MPUC accepted a one-year contract for one-third of the load at Central Maine Power and Bangor Hydro-Electric. As a result, in 2009, there was a need to replace two-thirds of the load (the 2006 and 2008 contracts). Standard offer rates have increased between 2% and 3% for each of the past two years for these two utilities, weighing together the net effect of power costs and decreases in stranded costs.

MPS with approximately 5% of the state's load is directly connected to the New Brunswick system, and is connected to the New England Power Pool through New Brunswick. There is only one competitive supplier serving the MPS service territory, and MPS filed an application in 2008 for new transmission facilities to better connect with the rest of the state. Cost allocation for the investment will be an issue.

In addition to the 30% RPS requirement, Maine requires "new renewable resources" to be 1% of the portfolio in 2008 (and growing by 1% a year). In 2007, Maine created an Energy Conservation Board to assist the MPUC with energy conservation as it relates to carbon dioxide reductions. In 2011, Public Act 413 was adopted which requires the PUC to study the renewable portfolio standard. The PUC engaged London Economic International and the results were published in January 2012 in the comprehensive report, MPUC RPS Report 2011 - Review of RPS Requirements and Compliance.

In June 2009, the MPUC determined that ratepayers are best served by allowing the utilities' agreement with ISO- New England to automatically renew for a two-year term. The MPUC had earlier assessed whether the ISO-NE's 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 Rollins wind project in Penobscot County. The criteria for election included energy and capacity benefits, hedging against fossil fuel prices, and resource diversity. Central Maine Power and Bangor Hydro Energy will share the contract 80%-20%, respectively. The Legislature gave the MPUC authority in 2006 to direct electric utilities to enter into long-term electric generation contracts.

In 2010, the MPUC approved the installation of advance metering infrastructure (CMP Docket No. 2007-215(II), BHE Docket No. 2006-661(II)). CMP received approximately \$96 million in funding under the Department of Energy (DOE)'s Smart Grid Investment Grant Program (~50% of the cost). The Commission also opened proceedings for both CMP and BHE to consider the pricing programs that should be implemented when AMI is fully installed and operational (CMP Docket No. 2010-132; BHE Docket No. 2010-14). The commission also considered a transition plan for displaced employees.⁵⁰

In July 2012, the MPUC set prices for standard offer electricity supply service for medium and large C&I customers of CMP and BHE, effective in September. The bids accepted reflect average prices over of 6.4 cents/kWh for CMP customers and 6.3 cents/kWh for BHE customers, which are 16% and 18% higher than current standard offer prices, respectively, but lower than the same period last year. The bids accepted for large C&I customers are indexed to the market, and prices will be set by the PUC in advance of each month based on current market prices.⁵¹ Standard offer prices for residential and small commercial customers remain at current levels until March 2013. In September 2012, the MPUC issued an RFP for electricity for residential and small commercial customers in the territories CMP and BHE for service beginning March 2013.

In April, 2013, the MPUC opened Docket No. 2013-00200, Commission Initiated Inquiry into Residential and Small Commercial Standard Offer Service and Customer Protection. An order was issued on November 13, 2013. The MPUC determined that there are now more choices in the competitive retail electricity market in Maine, and that changes should be made to make the Standard Offer Service more market reflective, and to serve as a stop-gap service rather than a standard service.

Maine Number of Suppliers in the Market October 2013	Residential Suppliers	Residential Products*	Nonresidential Suppliers
Bangor-Hydro Electric	14	14	33
Central Maine Power	16	16	32
Maine Public Service	9	9	19
* Based on number of suppliers. No list provided.			

⁵⁰ Maine PUC annual report. http://www.maine.gov/mpuc/about/annual_report/documents/annualreport.pdf.

⁵¹ For more information on standard offer service prices: <http://www.maine.gov/mpuc/electricity/standardofferrates/index.html>

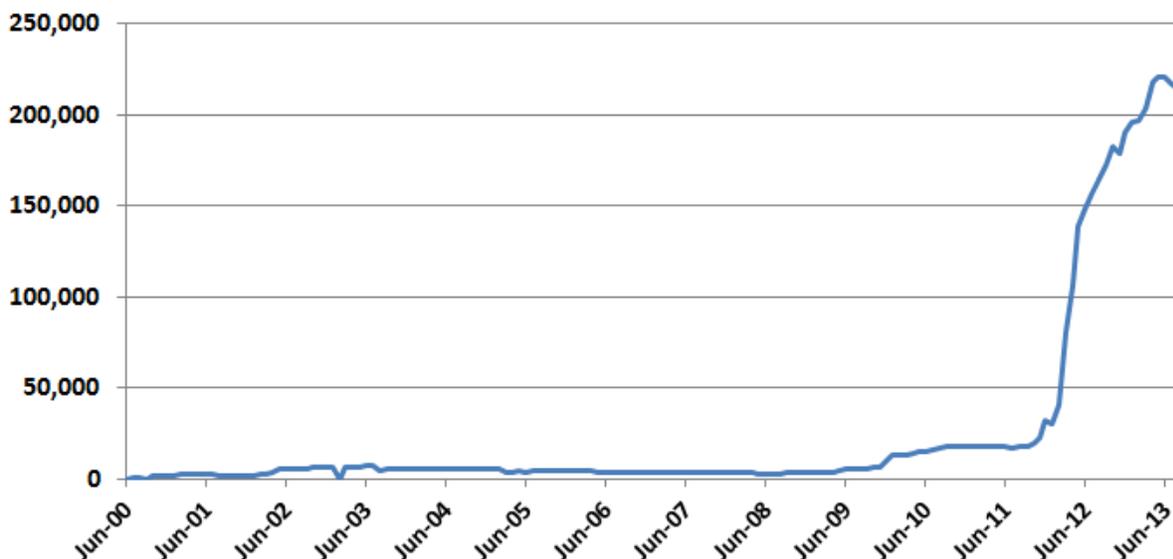
Residential switching increased dramatically this past year from 2.1% in 2011 to 21.6% in 2012. Medium C&I switching have increased from 36% in 2008, to nearly 45% in 2009, to 50.1% in 2010, to 51.9% in 2011 to 60.5% in 2012. Large C&I increased has ranged from 92% to 95% these past five years.

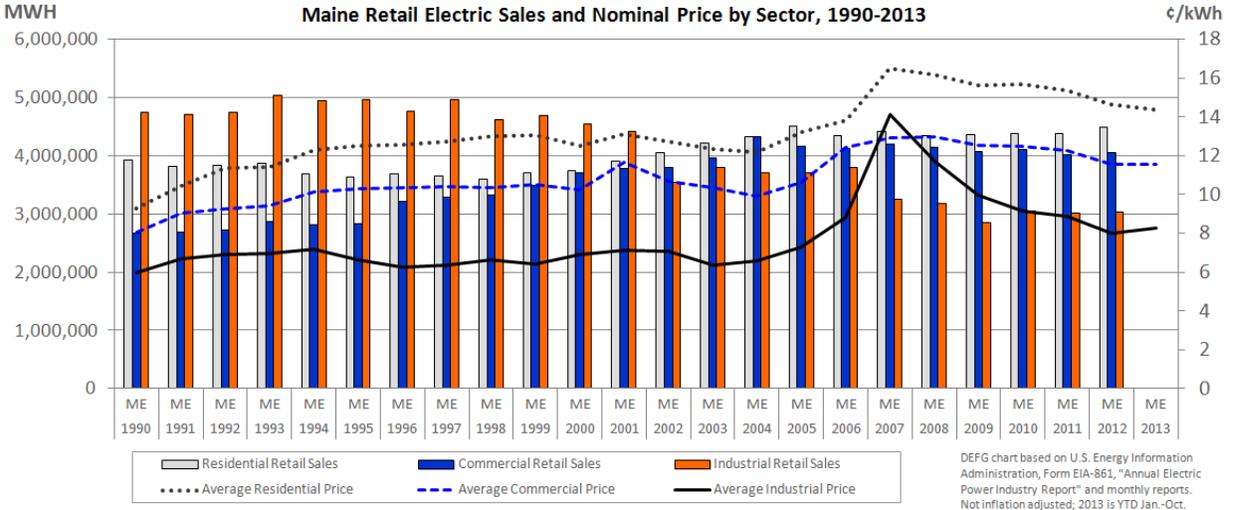
As of September 2013, a total of 213,564 residential and small commercial consumers in Maine received competitive electric service.

Maine Percent Switching September 2013	Percent of Residential and Small Commercial Customers*	Percent of Medium C&I Load (MWH)	Percent Large C&I Load (MWH)	Percent Total Load (MWH)
Bangor-Hydro Electric	14.7%	59.7%	91.4%	46.2%
Central Maine Power	32.4%	61.0%	96.1%	62.3%
Maine Public Service	0.1%	46.6%	94.4%	33.0%
State Total	28.0%	60.3%	95.5%	59.1%

* This category Includes residential and small commercial customers < 25 kW in BHE, < 20 kW in CMP and < 50 kW in MPS. Large C&I is defined as > 400 kW in CMP and > 500 kW in BHE and MPS. "Medium" falls between these two categories.

Maine - Small Customers Served Competitively





Maryland

In April 1999, Maryland adopted the Electric Customer Choice and Competition Act of 1999 (SB300 and HB703). The bill mandated retail access and a rate reduction. Customers of the investor-owned utilities became eligible for choice in July 2000, and customers of electric cooperatives became eligible at the end of 2001. Five municipal utilities remain locally controlled and are not required to offer retail choice.

Standard offer service design and rate levels have been a point of contention. The initial standard offer service remained in effect until July 1, 2003. A subsequent case (Case No. 8908) determined that standard offer service would remain in effect from 2004 to 2008. During this period, utilities, as the default service providers, acquired 1, 2, and 3-year power contracts to meet the needs of residential customers. Commercial customers received a more variable price, and large customers received hourly pricing over a one-year period. If numerous customers remained with standard offer service, the utilities applied an alternative price of service – the PJM hourly price.

Rate caps were scheduled to expire, but the anticipated price increases resulted in numerous alternative rate mitigation proposals. For example, in anticipation of 72% rate increases in the Baltimore Gas and Electric (BGE) service territory, the legislature considered bills in 2005 and 2006 to limit the immediate increase to 5% to 25%, with future recovery of deferred costs through a new transition charge. In Case No. 9056, the Maryland Public Service Commission (MDPSC) determined that everyone other than the smallest commercial customers would be moved to quarterly bidding and quarterly pricing. In Case No. 9064, residential customers were changed from to a two-year bidding framework, with one-fourth of the load bid every six months. In the BGE service territory, a Rate Stabilization Charge will collect a set amount over the next 10 years.

In December 2008, the 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 re-regulation 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 Independence Act of 2009" with the support of the governor. The bill stated that competitive retail electric markets did not developed as envisioned. In April, Maryland's House Economic Matters Committee voted nearly unanimously to kill the bill. In January 2010, Governor

O'Malley stated that he would not submit legislation to re-regulate energy markets in the upcoming legislative session, but would instead rely on the Public Service Commission to use existing authority to build new power generation as needed.⁵²

Maryland is pursuing climate change and energy efficiency issues. A significant portion of the revenues derived from a carbon auction in 2008 will be dedicated to energy efficiency activities and will be administered by the Maryland Energy Administration. Although advanced metering has not penetrated mass markets in Maryland, demand response remains important with approximately 1,000 MW of direct load control programs using smart switches, smart thermostats and radio frequency signals in PJM. State officials continue to work on reliability and resource adequacy issues, including the need for power plant construction in the state.

In December 2011, the MDPSC adopted a comprehensive set of regulations designed to improve reliability for electric distribution systems. The MDPSC adopted the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) metrics for 2012-2015. The utilities are required to submit annual performance reports. The first performance review will be concluded by July 2013.

In December 2011, the state announced that a settlement concerning the Exelon - Constellation merger would result in "\$1 billion in investment into the Maryland economy over the next decade and create more than 6,000 jobs." The total megawatts of energy generation to be built increased from 25 MW to 285-300 MW.. The PSC also retains the ability to spin-off BGE at some later date if Exelon "experiences significant financial difficulty, experiences a nuclear disaster, or repeatedly violates PSC Orders."

In April 2012, the MDPSC awarded a 20-year contract to Competitive Power Ventures to build a 661-MW natural gas combined-cycle power plant. This award was in response to an RFP seeking up to 1,500 MWs of new gas plants to be built by 2015. The MDPSC had already gotten Exelon and Constellation to build a 120-MW combustion turbine as part the merger deal. Controversy continues between Maryland and PJM as stakeholder talks have begun on revisions to the RTO's "minimum offer pricing rule." Stakeholders are concerned with states that subsidize new generation capacity and would reduce prices in the capacity market with capacity that is supported by mandatory wires charges that all customers must pay.⁵³

⁵² Source: Office of Governor Martin O'Malley, <http://www.governor.maryland.gov/>.

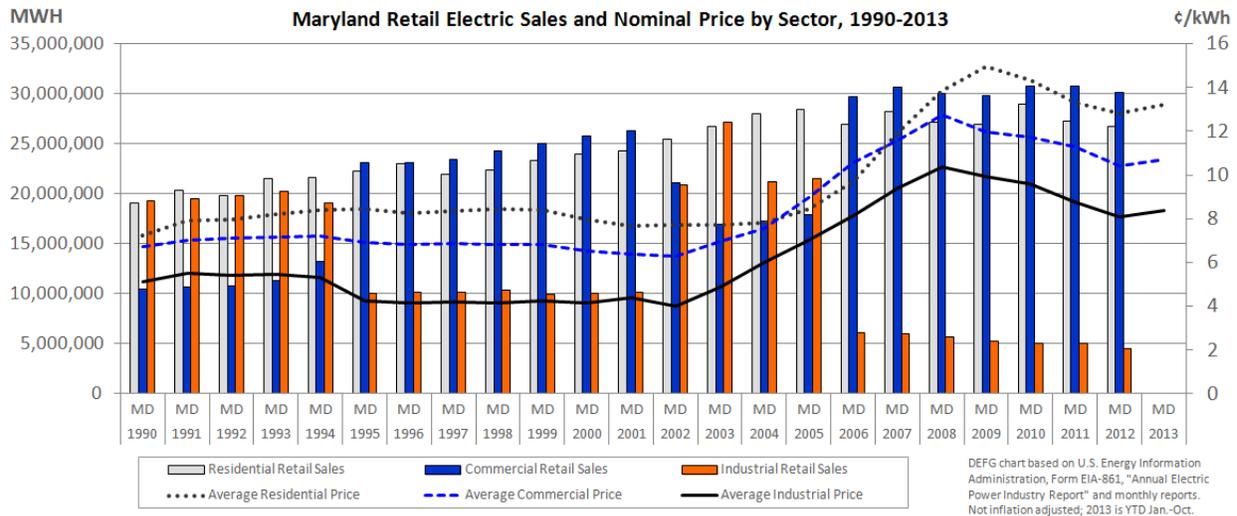
⁵³ See: "Maryland PSC awards RFP plant deal to Competitive Power Ventures," *Restructuring Today*, April 13, 2012.

Maryland Number of Suppliers in the Market October 2013	Residential Supplier*	Residential Products*	Nonresidential Supplier**
Potomac Edison (First Energy)	4	11	25
Baltimore Gas and Electric	22	66	46
Delmarva Power & Light	9	26	32
Potomac Electric Power	16	55	41
* Number of suppliers and products with defined offers reported on Electric Suppliers Price Chart provided by the People's Counsel. ** Number of Electric Suppliers Serving Enrolled Customers, Mid C&I, reported on the PSC's Electric Choice Enrollment Monthly Report.			

Residential switching increased as follows: 3% in 2008, 4.2% in 2009, 9.6% in 2010, 18.4% in 2011, 22.1% in 2012 and 26.1% in 2013. Mid-sized C&I switching increased from 62.3% in 2008 to 71.8% in 2013, while large C&I has been 92% to 94% during the same period.

As of July 2013, a total of 524,444 residential customers (households) in Maryland received competitive electric service.

Maryland Percent Switching July 2013	Percent of Residential Customers	Percent of Small C&I Load (MW)	Percent of Mid-C&I Load (MW)	Percent of Large C&I Load (MW)	Percent of Total Load (MW)
Potomac Edison (First Energy)	14.7%	29.3%	65.3%	88.8%	41.4%
Baltimore Gas and Electric	29.7%	39.9%	73.0%	95.4%	54.4%
Delmarva Power & Light	17.1%	45.5%	70.7%	96.5%	43.4%
Potomac Electric Power	26.4%	46.9%	72.5%	92.1%	55.1%
State Total	26.1%	40.5%	71.8%	93.8%	52.3%



Massachusetts

In November 1997, the state legislature enacted HB 5117 to restructure the electric power industry, granting rate cuts of 10% at first, and another 5% after 18 months, with full recovery of stranded costs over a 10-year transition period. In March 1998, the Massachusetts Department of Telecommunications & Energy (now housed within the Office of Energy and Environmental Affairs and called the Department of Public Utilities) issued final decisions and regulations to open the electricity market to retail competition. The law included a provision for a systems benefits charge, and Massachusetts has adopted advanced plans for energy efficiency and renewable energy.

Generation service became competitive, but transmission, distribution and customer services remained regulated monopoly services. Standard offer service was created as a transitional service for existing electricity customers. The standard offer set at 2.8 cents with a trajectory to rise to 5.2 cents per kWh in 2005 (projected to be above market in 2005). These were administratively determined numbers (not market based) and included fuel triggers to increase if necessary.

When markets opened, the 2.8 cents per kWh standard offer service rate was too low for competitors, stifling competition until the standard offer service rate was scheduled to rise in 1999. Utilities divested themselves of generation and natural gas plants were constructed. In 2000, standard offer rates were increased in response to market price increases.

As of 2005, standard offer service expired. These customers were transferred to default service which had been designed for customers who were new to the system but had not selected a competitive service provider. (In Massachusetts, "standard offer" and "default service" have distinct meanings.) Default service for smaller customers relies on twice a year procurement of 50% of the load for one-year terms. Default service for larger customers is procured four times a year, 100% of load at a time.

Aggregation is active on Cape Cod (eastern MA) with the Cape Light Compact serving a significant number of customers. Cape Light accounts for approximately one-half of the residential customer switching in Massachusetts. Customers who do not wish to participate can opt out of the aggregation program.

In August 2012, Governor Patrick signed S. 2395, “An Act Relative to Competitively Priced Electricity in the Commonwealth” intended to “protect ratepayers while providing greater reliability and energy independence.” The bill extends long-term renewable energy contracts, raises the cap on net metering, and emphasized energy efficiency.⁵⁴ Also in 2012, the MDPU approved the NSTAR-NU merger and required purchases from the Cape Wind project.⁵⁵ In July 2012, the gas and electric distribution companies and municipal aggregator “program administrators” submitted a three year plan to the Energy Efficiency Advisory Council (EEAC) regarding energy efficiency plans. The plan is an integrated attempt to provide innovative energy efficiency services, deliver on savings goals, maintain Massachusetts’ “first-in-the-nation energy efficiency status.”⁵⁶

Massachusetts Number of Suppliers and Products in the Market October 2013	Residential Suppliers	Residential Products*	Nonresidential
National Grid (Massachusetts Electric, Nantucket Electric)	5	5	29
NSTAR Electric (Boston Edison, Cambridge Electric, Commonwealth Electric)	17	17	66
Northeast Utilities (Western Massachusetts Electric)	4	4	41
Unitil (Fitchburg Gas & Electric Light)	**	**	**
* Based on number of suppliers. No list provided. ** No list provided			

Residential switching has increased from 11.2% to 16.9% over the past several years. C&I has switching increased in each size category over the period. Overall, statewide switching was 54.8% of electricity sales. (Note: The table below has fewer rows than in 2012 because reporting utilities have been aggregated.)

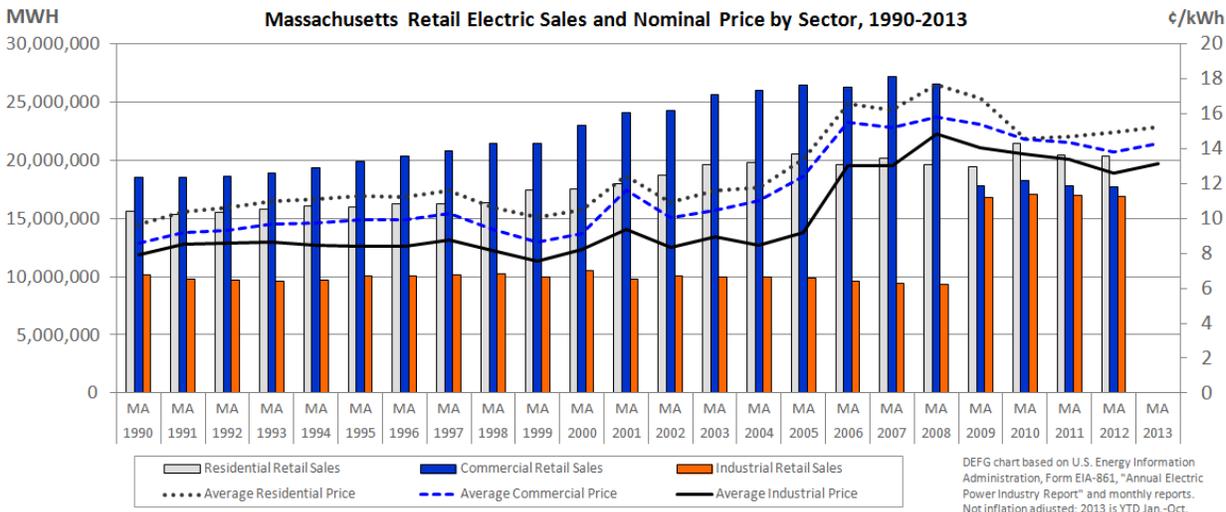
As of June 2013, a total of 398,734 residential customers (households) in Massachusetts received competitive electric service.

⁵⁴ Source: <http://www.mass.gov/governor/pressoffice/pressreleases/2012/2012803-governor-patrick-signs-energy-bill.html>.

⁵⁵ Source: <http://www.mass.gov/eea/pr-2012/ma-dpu-announces-approval-of-nstar-nu-merger.html>.

⁵⁶ See: <http://www.mass.gov/eea/energy-utilities-clean-tech/energy-efficiency/policies-regs-for-ee/energy-efficiency-advisory-council-eeac.html> and <http://www.ma-eeac.org/docs/7.10.12/Gas%20and%20Electric%20PAs%20July%202%20Plan%207-2-12.pdf>.

Massachusetts Percent Switching June 2013	Percent of Residential Customers	Percent of Small C&I Load (MWH)	Percent of Medium C&I Load (MWH)	Percent of Large C&I Load (MWH)	Percent of Total Load (MWH)
National Grid (Massachusetts Electric, Nantucket Electric)	12.8%	33.5%	63.3%	89.1%	48.9%
NSTAR Electric (Boston Edison, Cambridge Electric, Commonwealth Electric)	23.3%	56.7%	57.7%	88.5%	61.0%
Northeast Utilities (Western Massachusetts Electric)	10.4%	62.7%	79.4%	92.7%	52.3%
Unitil (Fitchburg Gas & Electric Light)	24.1%	18.9%	41.2%	98.7%	48.1%
State Total	16.9%	48.2%	61.1%	89.0%	54.8%



Michigan

The Michigan Public Service Commission (MPSC) initially ordered retail choice pilot programs in 1998 and 1999. Michigan's Customer Choice and Electricity Reliability Act (2000 Public Act 141), enacted June 2000, introduced competition into the electric industry by offering Michigan customers the opportunity

to choose to purchase their electric generation services from an alternative electric supplier (AES). While access for a few large customers began in 1999, all large customers (loads of greater than 1 MW) of Detroit Edison, Consumers Energy, and the electric cooperatives obtained retail access in January 2001. In December 2001, the MPSC issued nine orders to advance Michigan's competitive electric environment. Among the decisions: Detroit Edison and Consumers Energy could not change their depreciation accrual rates and practices until January 2006; rules would be drafted for service quality and reliability standards for electric distribution systems; standards were adopted for the disclosure of customer information, fuel mix and environmental characteristics; and net stranded costs for utilities were determined. Rate cuts were mandated for some default service tariffs.

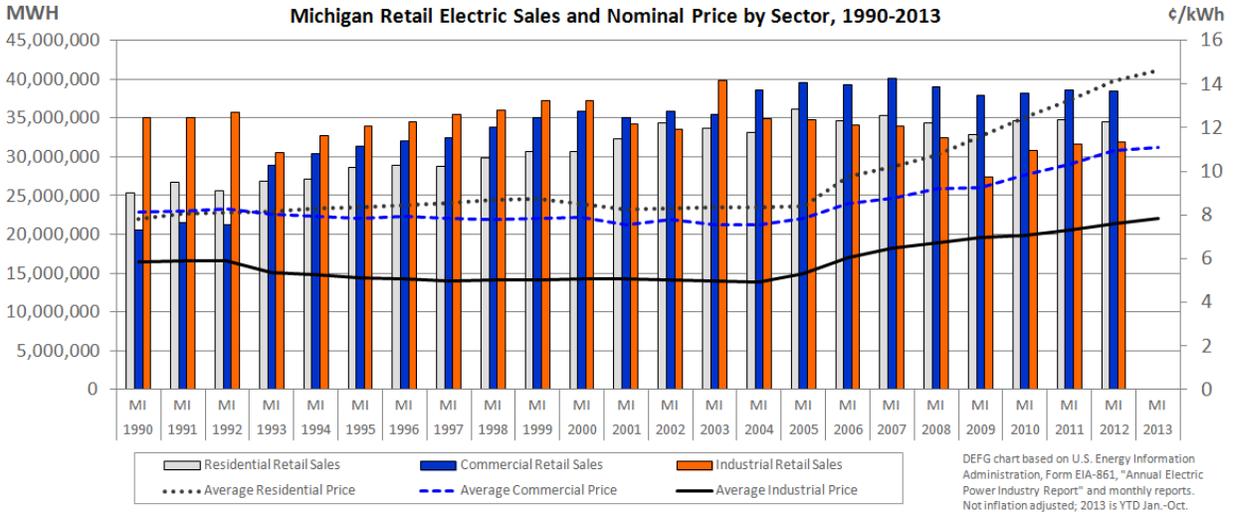
Michigan is the first state to have independent transmission company ownership of virtually all its high-voltage transmission facilities. Trans-Elect owns Consumers Energy's 5,400 miles of transmission, and Kohlberg Kravis Roberts and Trimaran Capital Partners own DTE Energy's (Detroit Edison) 3,000 miles of transmission.

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%. On October 6, 2008, Governor Granholm signed a pair of bills. HB 5524 (2008 Public Act 286) amended the Customer Choice and Electricity Reliability Act, and SB 231 (2008 Public Act 295) addressed energy planning and renewable energy. 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 customer would not be eligible for choice and would receive standard tariff service. HB 5524 would require customers to declare within 90 days whether they would continue to receive power from an alternative electric supplier. Upon selection of this option, customers would be required to give notice to return to regulated service, and would pay the higher of average rates or market prices at the time of return for one year. Other customers would receive on standard tariff service. New customers would not be eligible for choice and would receive standard tariff service. The proposed legislation would also limit the market share of non-incumbent suppliers to 10% of sales. (This states that "no more than 10% of an electric utility's average weather-adjusted retail sales for the preceding calendar year may take service from an alternative electric supplier at any time.")

While customer choice is available to all customers (excluding electric cooperative members with loads of one MW or less), competitive retail providers do not offer services in any utility service territories other than Consumers Energy and Detroit Edison. Commercial and industrial customers in the service territories of Detroit Edison and Consumers Energy accounted for all of the participation in the electric choice programs during 2011. In the Consumers Energy service territory, nearly 11% of the load has switched and within the DTE Energy service territory, more than 11% of load has switched. Pressure remains on the state legislature to re-visit the cap provisions, particularly in light of heightened customer interest.

Michigan Number of Suppliers and Products in the Market October 2013	Residential Suppliers	Residential Products*	Nonresidential
Consumers Energy (CMS Energy)	1	1	8
Detroit Edison (DTE Energy)	1	1	10
Indiana Michigan Power (AEP)	1	1	3
Upper Peninsula Power	0	0	3
WPSC	0	0	1
* Based on number of suppliers. No list provided.			

Michigan Percent Switching October 2012	Percent of Residential Customers*	Percent of Commercial Load (MWH)*	Percent of Industrial Load (MWH)*	Percent of Total Load (MWH)*
Consumers Energy (CMS Energy)	NA	NA	NA	10.85%
Detroit Edison (DTE Energy)	NA	NA	NA	11.31%
Indiana Michigan Power (AEP)	NA	NA	NA	5.41%
Upper Peninsula Power	NA	NA	NA	0.99%
State Total	NA	NA	NA	10.72%
* The cap is set at 10% of each company's previous calendar year's weather adjusted sales.				



Montana

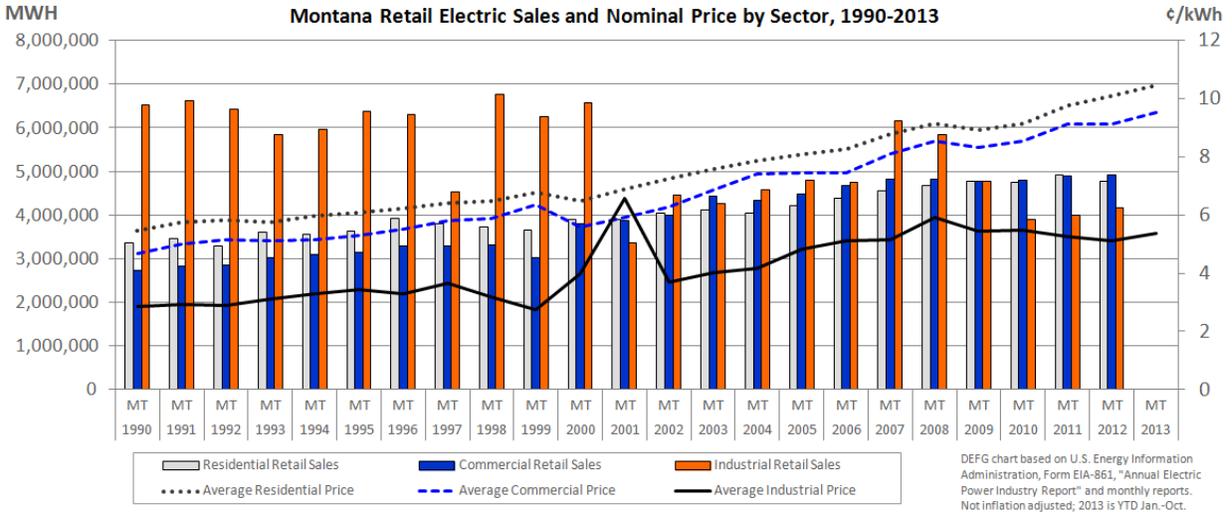
In May 1997, Montana enacted SB 390, the Electric Utility Industry Restructuring and Customer Choice Act, and gave larger consumers the ability to choose their power supplier in 1998. Under the Act, electricity suppliers must file an application and obtain a license from the Montana Public Service Commission (MPSC) before offering electricity for sale to retail customers. Legislation in 1999 (SB 406) allowed residential and small business customers to combine their buying power by forming a cooperative. The law exempts electricity suppliers from laws that prohibit cooperatives from expanding into cities of more than 3,500 persons. A standard information facts label was required for sales to residential and small commercial customers. The MPSC web site provides consumer protection information.

The MPSC decided in 2000 to delay full customer choice until 2004. Montana's investor-owned utility voluntarily divested its generation in December, 1999, and acquired default supply through competitive bidding. Additional legislation in 2001 (HB 474) altered the existing legislation and extended the transition period to July 2007. Rates were increased and the MPSC was criticized for not exerting enough control over the market participants.

Every two years, NorthWestern Energy must submit a plan detailing how it will secure electricity. The utility remains the default service provider and the MPSC conducts proceedings to consider the utility's Electricity Supply Procurement Plan. Montana-Dakota Utilities (MDU) was not required to restructure pursuant to the Electric Utility Industry Restructuring and Customer Choice Act. All aspects of electricity service provided by MDU to Montana retail customers remains fully regulated.

In September 2012, the MPSC released a report on utility planning and procurement. The draft rule suggests changes to improve consumer protections for NorthWestern Energy. Specifically, it suggests that the MPSC require all generators to compete with one another in competitive solicitations rather than be offered standard rates established by the MPSC. The report proposes updates to integrated resource planning rules.⁵⁷

⁵⁷ See http://psc.mt.gov/news/pr/20120925_PSC_Releases_Report_on_Utility_and_Procurement_Practices.pdf and Docket N2012.5.56 at <http://www.psc.mt.gov>.



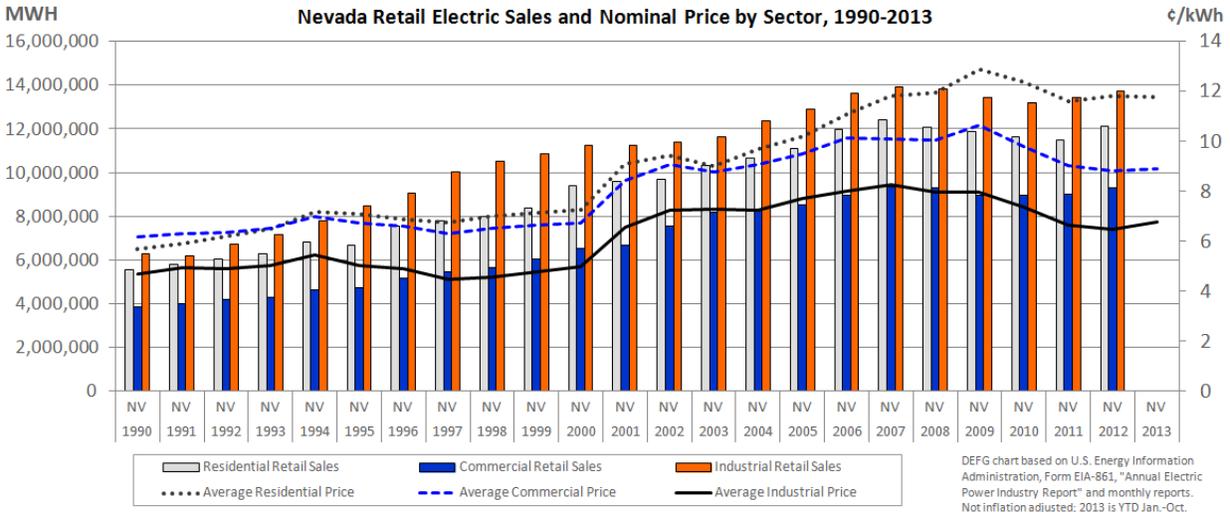
Nevada

In July 1997, Assembly Bill 366 was enacted adopting retail access. Larger customers became eligible in 2000. A settlement from a challenge by the Nevada utilities to the state's electric restructuring statute resulted in an agreement that the companies would not seek stranded cost recovery. In October 2000, the governor delayed implementation of the choice plan for residential customers until September 2001.

In March 2001, the governor issued the Nevada Energy Protection Plan, a strategy to provide energy reliability, consumer protection, and long-term rate stability. In April 2001, AB 369 rejected retail access for small customers, returned utilities to regulation, and barred the sale of power plants before July 2003. Electric utility deregulation was halted because of high demand, low supply, and unstable prices. Also in 2001, Assembly Bill 661 revised and repealed certain provisions of Nevada's restructuring law. The law allowed each "eligible customer" (>1 MW average load) to choose an alternative supplier for power with permission from the State PUC. By March 2003, nine large commercial customers (e.g., casinos) were approved to purchase power from competitive sources.

Electric utility triennial IRPs set forth an energy supply plan and the utility is required to file an energy supply update each year regarding cost and volatility mitigation using hedging for fuel and power purchases.⁵⁸

⁵⁸ Source: <http://pucweb1.state.nv.us/PDF/Admin/Biennialreport.pdf>.



New Hampshire

In May 1996, legislation (HB 1392) was enacted for retail choice: statute RSA 374-F. In July 1998, Granite State Electric opened its retail load to competition. Litigation in state and federal courts tied up implementation for Public Service Company of New Hampshire (PSNH). Additional legislation (SB 472) passed in May 2000, breaking the deadlock with PSNH. PSNH did not implement customer choice until May 2001. Legislation mandated rate reductions and divestiture of generation. The other three electric distribution utilities restructured between 1998 and 2002. Competitive suppliers are welcome to provide service in restructured areas, but most residential customers receive Transition Service (available to customers who do not immediately select a supplier) or Default Power Service (safety net service which is always available).

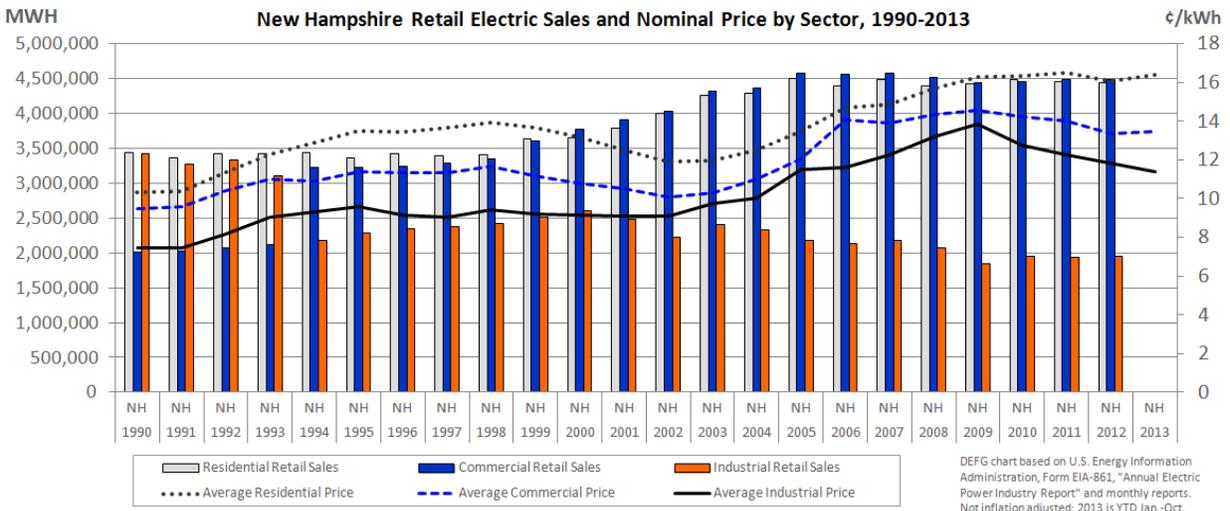
The focus in recent years in New Hampshire has been on the development of comprehensive energy efficiency programs and the effective use of a system benefits charge. In its October 2009 report to the legislature, the New Hampshire Public Utilities Commission (NHPUC) stated that the current SBC of 3.3 mills per kilowatt-hour was split between energy efficiency and low income assistance. EE funds were used for cost effective measures, market transformation and demand response. (About 3% of program revenues came from payments from the ISO-NE's Forward Capacity Market.) A January 2009 study indicated significant EE potential remains in NH.

A September 2011 report, "Independent Study of Energy Policy Issues," discussed energy efficiency, sustainability and conservation of resources. The report was to include "The appropriate role of regulated energy utilities, providers of energy and energy efficiency, and others ... to achieve the state's energy efficiency potential for all fuels ..." However, the report made no statement about competitive retail energy markets and did not mention "competitive energy suppliers" in 350 pages.

In September 2012, Granite State Electric Company filed pursuant to a settlement in Docket No. DE 05-126 with regard to its default service rates for medium and large C&I customers and for 100% of requirements for residential and small commercial customers. The bill impact for large customers will be 19-24% and for residential customers (500 kWh) would see an increase from \$60.54 to \$68.75 (13.6%).⁵⁹

⁵⁹ Source: <http://www.puc.state.nh.us/Regulatory/Orders/2012orders/25416e.pdf>.

New Hampshire Number of Suppliers in the Market June 2013	Residential	Residential Products*	Nonresidential
Public Service Company of New Hampshire	11	11	19
Liberty Utilities (Algonquin Power & Utilities Corp) (formerly Granite State Electric Company and National Grid)	6	6	14
Unitil Energy Systems	7	7	14
New Hampshire Electric Cooperative	3	3	7
* Based on number of suppliers. No list provided.			



New Jersey

In February 1999, New Jersey adopted the Electric Discount and Energy Competition Act (EDECA) (AB 10/SB 5) which authorized the New Jersey Board of Public Utilities (NJBP) to permit competition in the electric and gas marketplace, allowed electric utilities to divest themselves of electric generation assets, allowed securitization of stranded cost recovery that could be collected through a non-bypassable wires charge, provided an immediate rate reduction of 5% (10% by year four) and established a social benefits charge for the collection of monies for demand-side management programs. Utilities were allowed to use deferred accounting for expenses that were not collected under the rate cap. All customers in New Jersey can purchase their electricity from a third party supplier rather than the local utility company. Shopping credits, the rates against which outside suppliers must compete, were set at about 5 to 6 cents per kWh, depending on the rate class and utility.

In December 2000, the NJ Supreme Court upheld a decision upholding the NJBP restructuring and securitization orders for PSE&G. By 2002, the difference between the market cost of electricity and the

mandated rates, known as "deferred balances," had grown to approximately \$1 billion, largely because competition in New Jersey had not occurred as anticipated. A task force on deferred balances was convened by the governor.

Under EDECA, there was a requirement for a provider of last resource for basic generation service (BGS). BGS has been provided by the electric utilities since 2002-03. In February 2006, rate increases of 12% to 13.7% were announced as a result of the 2006 auction for BGS. The 2008 auction covers hourly-priced service for Commercial and Industrial Energy Pricing (CIEP) Customers for one year beginning June 1, 2008. The fixed price customer auction is for a supply period of three years, with approximately one-third of each utility's total load requirements acquired each year. The winning fixed price contracts averaged 11.15 to 12.05 cents per kWh. These supplies replace the 2005 contracts and will result in residential customer price increases of 11.5% to 17.3% in the various service areas.

In late 2009, the 2010 auction is underway. In the JCP&L service area, for example, there is a transition toward more tranches of approximately 100 MW each. There will be 18 tranches this year, but by the 2012 auction there will be 53 tranches. The average BGS price next year will include power procured in the 2008, 2009 and 2010 auctions, with 2010 auction fixed-price contracts replacing those from 2007.

The social benefits charge includes incentives for energy efficiency programs and renewable resource programs. The state adopted a renewable portfolio standard that includes a solar set aside (2.12% solar capacity by 2020). New Jersey has almost 1,000 MW of installed solar capacity and uses Solar Renewable Energy Certificate (SREC) trading to help finance solar projects. In 2007, New Jersey adopted the Global Warming Response Act (A3301) which set greenhouse gas emissions targets. The state has programs implemented by investor-owned utilities that have transitioned to third-party program management.

In July 2012, Governor Christie signed legislation to "strengthen and encourage the continued growth of New Jersey's solar industry, while protecting ratepayers from increased costs." S-1925 modifies the "solar alternate compliance payments" to lower costs by an approximately \$1 billion over 15 years. The fixed megawatt requirement was changed to a percentage of overall energy usage, rising and falling with overall energy use. Almost 2% of electricity in NJ now comes from solar energy.⁶⁰

In February 2013, the NJBPU approved the state's twelfth annual electricity auction for Basic Generation Service (BGS). This year's auction resulted in a .05% increase in PSE&G's residential rate, but decreases in the other three utilities residential rate of 3% - 5%. As is the state's practice, this auction will be used to satisfy one-third of the state's residential and small business electric demand over the next three years. The remaining two-thirds was acquired in prior year auctions, 2011 and 2012. The state's four electric distribution utilities do not earn a profit on the cost of the generation. PJM's capacity market price (the Reliability Pricing Model or RPM) has increased the capacity portion of the auction, and the NJBPU is advocating before PJM to address what it considers inequities of the RPM. For larger customers, the "Commercial and Industrial Energy Pricing" (CIEP) price is for C&I customers not served by third-party suppliers. As of August 2013, almost 90% of the large C&I load was provided through individual competitive contracts with third-party suppliers. The CIEP customers access supply in the hourly energy market.⁶¹

⁶⁰ Source: <http://nj.gov/bpu/pdf/announcements/2012/20120723.pdf>.

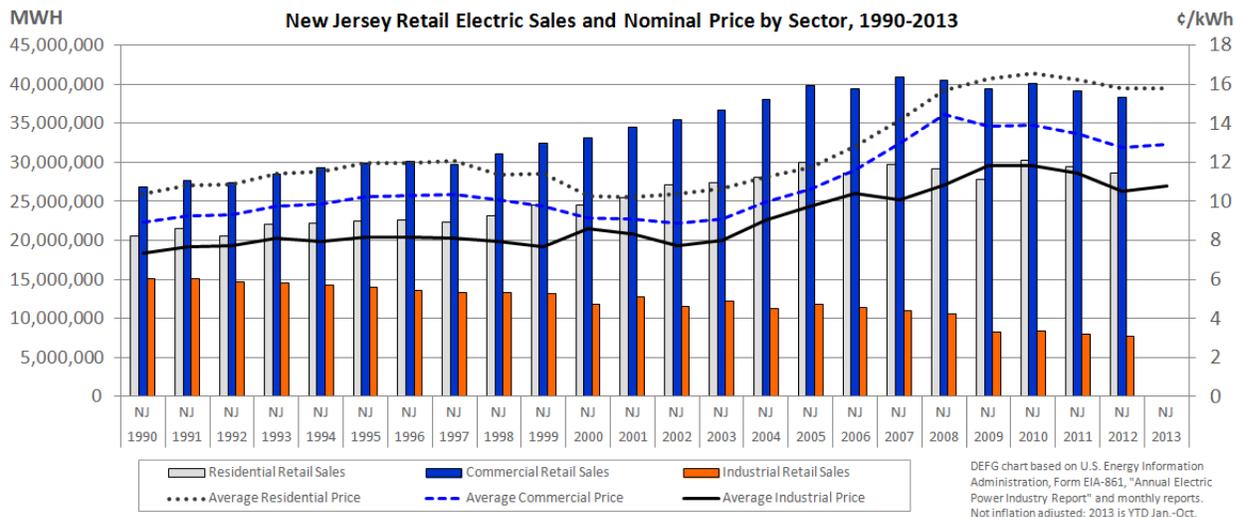
⁶¹ Source: <http://www.bpu.state.nj.us/bpu/newsroom/BGS2012release020912.pdf>.

New Jersey Number of Suppliers and Products in the Market October 2013	Residential Suppliers	Residential Products*	Nonresidential
Atlantic City Electric Company	48	48	45
Jersey Central Power & Light (JCP&L)	51	51	72
Public Service Electric and Gas Company (PSE&G)	58	58	86
Rockland Electric Company	38	38	54
* Based on number of suppliers. No list provided.			

Residential customer switching increased from 2.1% in 2010 to 16.0% in 2013. Small C&I customer switching (< 500 kW) rose in New Jersey from nearly 39.1% in 2010 to 56.5% in 2013, while large C&I has remained about 85% in recent years.

As of September 2013, a total of 536,263 residential customers (households) in New Jersey received competitive electric service.

New Jersey Percent Switching September 2013	Percent of Residential Customers	Percent of C&I Load < 500 kW (MW)	Percent of C&I Load >500 kW (MW)	Percent of Total Load (MW)
Atlantic City Electric Company	18.5%	64.8%	85.6%	41.0%
Jersey Central Power & Light (JCP&L) (First Energy Corp.)	20.9%	62.4%	85.9%	47.2%
Public Service Electric and Gas Company (PSE&G)	12.9%	52.6%	86.1%	43.6%
Rockland Electric Company	12.5%	49.5%	88.6%	34.0%
State Total	16.0%	56.5%	85.7%	44.2%



New York

The New York Public Service Commission (not the state legislature) ordered restructuring of the electric utilities in May 1996. The NYPSC implemented a plan for restructuring by approving utility plans in 1997 and 1998. The entire market is now open. Residential consumers can elect to receive service through the regulated tariff of the local electric distribution company, or through an aggregation program, or directly from a competitive retailer known in New York as an energy service company (ESCO). Switching rates appear in the table below. Although New York does not use the term "default service," a majority of residential consumers receive electric service through the regulated tariff of the local electric distribution utility.

The NYPSC played a key role in the development of national uniform business practices. The NYPSC approved standards governing the electronic exchange of routine business information and data among electricity and natural gas service providers in New York in June 2001. The NYPSC also issued an order to establish uniform retail access billing and payment processing practices that facilitates a single bill option for customers.

In 2002, New York made important progress in enhancing retail competition in the areas of customer protection, information disclosure, and demand responsiveness. Under a 2002 law, the customers of ESCO receive the same protections as those of the utilities. The ESCOs lobbied for these provisions because they now have a greater chance of getting payment from customers, and customers have equal protection from all ESCOs and utilities. Electricity consumers now receive information in electric bills about the types of generating fuels and related air emissions. These steps encourage green power offerings in New York. ESCOs are participating in demand response programs. Electricity use curtailment competes directly with generation during periods of high electricity consumption.

Competitive electric metering and electric meter data services are permitted in New York for certain customers. New York is considering the deployment of an advanced metering infrastructure to realize the State's energy policy goals for time-differentiated pricing and energy efficiency.

In May 2007, the NYPSC initiated a proceeding (Case 07-M-0548) to investigate an Energy Efficiency Portfolio Standard (similar to a renewable resources portfolio standard) to advance the Governor's goal of 15% reduction in electricity use by 2015. The existing systems benefit charge is used, in part, to fund

energy efficiency incentive programs administered by the New York State Energy Research and Development Administration (NYSERDA). In March 2012, an order established an incentive mechanism for utilities administering the Energy Efficiency Portfolio Standard (EEPS). This revised the current mechanism and runs from 2012-15.⁶²

The New York PSC is considering a requirement for a consumer disclosure statement, timelier dispute resolution and training of retailer representatives. In New York, nearly three-quarters of the industrial consumers and over one-half the commercial customers are purchasing power from competitive suppliers. Numerous electric rate offerings are available including guaranteed savings programs, fixed and variable prices, and green power. New York benefits from an intrastate independent system operator 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. Like Texas, New York is fine tuning its market rules. The PSC has recently required a number of additional consumer protection provisions. New York is working on timelier dispute resolution and training of retailer representatives. New York also has in place an extensive set of programs that encourage energy efficiency, renewable resources and on-site generation, including combined heat and power. The NYPSC has adopted modifications to the Uniform Business Practices (UBP) and an ESCO Consumers Bill of Rights (ECBR) to provide to prospective residential customers and any customers marketed to through door-to-door sales.⁶³

In Case 10–E–0285, Proceeding on Motion of the Commission to Consider Regulatory Policies Regarding Smart Grid Systems and the Modernization of the Electric Grid, the commission decided (August 2011) not to prescribe a particular end-state or deployment schedule for smart grid. The policy framework—addressing customer data privacy/access, interoperability/cyber-security standards and communications—enables utilities to avail themselves of the opportunities in this area.⁶⁴

⁶² Source: <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={93BC3B51-B317-461C-876E-0ED5962DBBA9}>.

⁶³ Source: <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B328751D7-8DE4-4D5E-852F-60A69A2134B5%7D>.

⁶⁴ Source: <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=10-E-0285>.

New York Number of Suppliers and Products in the Market October 2013	Residential Suppliers	Residential Products	Nonresidential
Central Hudson	28	53	34
Consolidated Edison	67	122	55
Niagara Mohawk (National Grid)	30	47	47
New York State Electric & Gas	30	41	41
Orange & Rockland Utilities	14	14	29
Rochester Gas & Electric	31	41	43

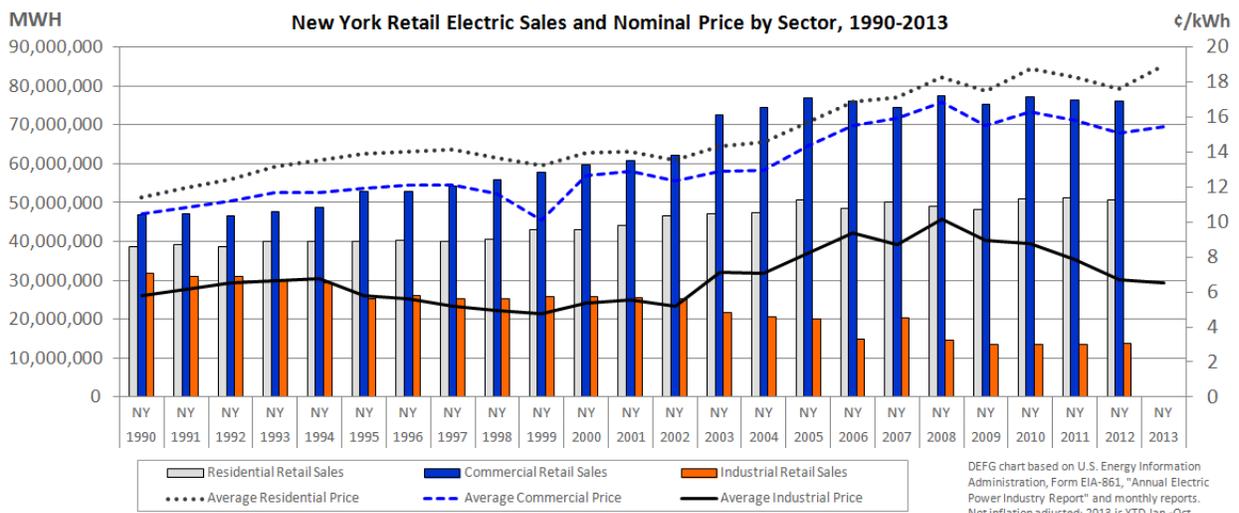
Switching rates continues upward by several percentage points in each category in New York, reaching 48.2% of retail sales in the state, and over 80% of electricity sales to largest industrial customers in the urban service territories.

As of April 2013, a total of 1,388,587 residential customers (households) in New York received competitive electric service.

New York Percent Switching April 2013	Percent of Residential Customers	Percent of Small Nonresidential Sales (MWH)	Percent of Large Nonresidential TOU Sales (MWH)	Percent of Total Sales (MWH)
Central Hudson Gas & Electric	13.6%	54.6%	90.2%	45.9%
Consolidated Edison	26.1%	63.6%	90.1%	56.8%
National Grid*	18.9%	68.5%	71.2%	51.7%
New York State Electric & Gas	24.9%	65.8%	90.9%	55.6%
Orange & Rockland Utilities	39.3%	84.4%	47.3%	58.6%
Rochester Gas & Electric	25.9%	16.8%	93.1%	39.1%
State Total	24.0%	58.7%	83.1%	52.7%

Does not include Long Island Power Authority and municipalities that purchase from the New York Power Authority.

* Formerly Niagara Mohawk



Ohio

Legislation (Senate Bill 3) was enacted in July 1999. On January 1, 2001, this legislation freed Ohio's utility-owned generation from economic regulation, caused utilities to unbundle rates into generation, transmission and distribution components, and initiated retail customer choice of generation suppliers. In April 2008, Ohio Senate Bill 221 modified but did not repeal Senate Bill 3. All aspects of retail customer choice were preserved under SB221, including process mechanics, certification of suppliers, etc.

SB3 required a 5% residential rate reduction and a rate freeze for 5 years to allow a transition to competitive markets. The legislation contained consumer protections, environmental provisions, and labor protections; empowered the Public Utilities Commission of Ohio (PUCO) to determine the amount and recovery period for stranded costs; required that property taxes utilities paid would be replaced with an excise tax on consumer bills; and required that utilities spend \$30 million over six years on consumer education programs. Ohio's law allowed communities to aggregate and strengthen their bargaining power in establishing electricity prices. Under aggregation, residents received a postcard in the mail notifying them of their new electricity choice, and those who choose to opt out and continue buying power from their current supplier had 21 days to act. Ohio was a model for aggregation with over 800,000 consumers receiving power in that manner in 2004-5.

As the end of the five-year transition approached, the PUCO was concerned that the market had not developed sufficiently to quickly move to market based rates. PUCO adopted rate stabilization plans of three to five years duration for each utility, which went into effect in 2006.

In May 2008, Ohio enacted electric industry legislation (SB 221) containing energy efficiency requirements for investor-owned utilities and establishing the Ohio Alternative Energy Portfolio Standard (AEPS) which set 2025 goals for renewable resources and advanced resources. SB221 fundamentally changed the way standard service offer (SSO) rates were set. Electric distribution utilities were required to choose one of two competitive approaches. They may offer SSO service based on an "electric security plan" (ESP), or based on a "market rate offer" (MRO) that is determined through competitive wholesale procurement. The focus is on disciplining price either by empowering the electric utilities to fully compete in the retail marketplace via the ESP, or by enabling them to channel wholesale competitive prices to retail SSO customers via the MRO.

Under the ESP option the utility proposes a retail rate for some term (generally three years) along with a comprehensive package of terms and conditions. The ESP itself is a competitive offering. There is no requirement or expectation that the ESP should be cost based. The proposed ESP is subject to a full hearing process. In order to be approved the Commission must determine that the rate plan is better in the aggregate than a market rate option. If approved by the Commission the ESP retail price offer then serves as a price cap with fuel cost adjustment allowed so long as the cap is not exceeded. Retail choice serves as a check against ESP SSO prices being too high. A high rate will invite retail competitors to enter the market and undercut the utility's price. This has happened over the last two years during which customer switching has gone from virtually nil at the outset of the first round of ESPs to 42% of sales in the commercial and industrial sector, and to 22% of sales for the residential sector on a statewide basis in June of 2010.

If the utility elects the MRO approach, then SSO rates will be based upon some wholesale market procurement mechanism such as a declining clock auction. The PUCO must approve the procurement mechanism and the result. The PUCO has approved such procurements and the resulting SSO prices, which are in effect for some utilities today. In addition to changing the way in which SSO rates are established, SB221 promulgated portfolio standards for renewable and advanced generation

technologies, and portfolio standards for energy efficiency gains and peak demand reductions. These provisions address classic market failures for providing innovation and demand side management. Renewable benchmarks (mandated levels) apply to both utilities and competitors alike, while distribution utilities are responsible for reducing peak load and energy intensity of all wires customers.

Certain safeguards are specified in SB221, such as a prohibition against including generation costs in unbundled distribution rates. In addition, the law includes a new safeguard – the Significantly Excessive Earnings Test. This test applies at the enterprise level to serve as a check against all business segments, including generation, transmission and distribution, charging excessive rates. If the commission finds that earnings are excessive, it can end an ESP and take necessary measures to smooth the transition to another arrangement.

AEP filed an ESP application in January 2011 and in December 2011 the PUCO modified and approved a September 2011 agreement. Under the agreement, AEP would have transitioned to a market-based generation rate structure between January 2012 and May 2016. In February 2012, the PUCO revoked the ESP and directed AEP to file a modified ESP application. In March 2012, AEP-Ohio filed a modified ESP application that proposed to separate generation assets from distribution and transmission assets. In August 2012, the PUCO modified and approved AEP's ESP application. The PUCO ruling allows AEP to transition to a fully competitive market based structure by June 1, 2015, with base generation rates frozen through May 2015. AEP will auction increasing amounts of its standard service offer beginning in 2013. By June 2014, 60 percent will be provided by competitive auctions, and by January 2015 it will be 100% auctioned. A 12% rate increase cap was set during the term of the ESP.⁶⁵

Between 2008 and 2010, the number of residential consumers participating in aggregation programs rose from 202,000 to 910,000. Nearly one quarter of the state's residential consumers participate in an aggregation program. Just over one million residential consumers have switched, and 91% of these participate through aggregation. Residential switching in three utility territories of First Energy Corp.—Cleveland Electric Illuminating, Ohio Edison, and Toledo Edison—increased dramatically, while residential switching in the Duke Energy Ohio area doubled in the past 12 months. Commercial and industrial switching increased in these areas and Dayton Power and Light, rising to more than a third of all state-wide sales. Almost all of the industrial switching was by individual companies, while 74% of commercial switching was the result of an aggregation program. The PUCO web site provides “apples to apples” price comparisons for natural gas and electricity. One region – Duke Energy Ohio – displays two price offers as alternatives to default service.

In 2012, legislation (S.B. 289 and S.B. 315) added new technologies to the list of eligible Renewable Energy Resources and Advanced Energy Resources. In July 2012, the PUCO created Docket 12-2156-EL-ORD to implement the changes.

On December 12, 2012, the PUCO initiated an investigation into its retail electric market. The PUCO "seeks comments addressing questions about market design and corporate separation with a focus on ensuring that no undue barriers exist that prevent a fully competitive market from operating."⁶⁶ PUCO case number 12-3151-EL-COI sets forth market design questions, labeled (a) through (k), and corporate separation questions, labeled (a) through (h). Comments are due on January 30, 2013.

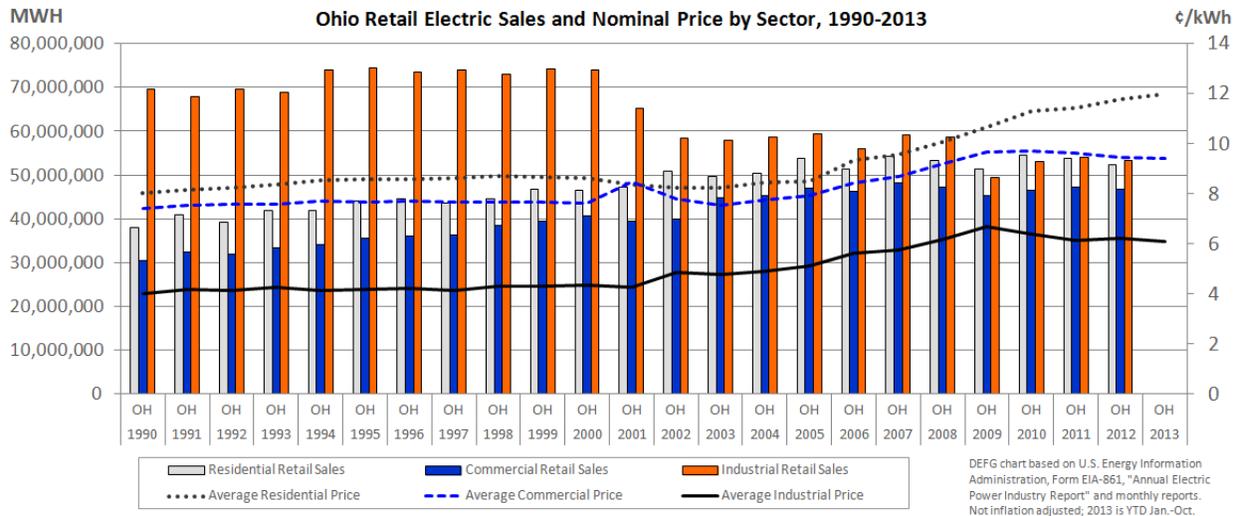
⁶⁵ Source: <http://www.puco.ohio.gov/puco/index.cfm/consumer-information/consumer-topics/aep-ohioe28099s-electric-security-plan/>.

⁶⁶ “PUCO initiates electric retail market investigation,” press release, PUC of Ohio, December 12, 2012.

Ohio Number of Suppliers and Products in the Market October 2013	Residential Suppliers	Residential Products	Nonresidential*
First Energy Corp.	14	32	67
Duke Energy Ohio	30	58	67
Dayton Power and Light Company (DP&L)	18	45	67
AEP (American Electric Power)	18	46	67
* Licensed marketers			

As of June 30, 2013, a total of 2,105,952 residential customers (households) in Ohio received competitive electric service.

Ohio Percent Switching June 2013	Percent of Residential Customers*	Percent of Commercial Sales (MWH)	Percent of Industrial Sales (MWH)	Percent of Total Sales (MWH)
Cleveland Electric Illuminating Company (First Energy Corp.)	75.5%	91.7%	89.8%	86.4%
Duke Energy Ohio	49.2%	83.8%	95.9%	76.2%
American Electric Power Ohio (Columbus Southern Power Company and Ohio Power Company)	24.1%	75.1%	67.2%	57.7%
Dayton Power and Light Company	34.2%	82.7%	97.5%	70.1%
Ohio Edison Company (First Energy Corp)	70.6%	90.8%	80.5%	79.5%
Toledo Edison Company (First Energy Corp.)	71.5%	91.0%	75.0%	77.4%
State Total	50.2%	83.5%	79.3%	71.4%
* Residential switching is predominately through opt out aggregation.				



Oregon

In late 1997 Portland General Electric proposed a pilot project to allow customers to select a generation supplier. A few months later, PacifiCorp proposed a pilot that would allow customers to select from a portfolio of pricing and resource options, including a Cost-of-Service (COS) rate called the Standard Offer Service. These pilots set the stage for SB 1149, the restructuring bill, enacted in July 1999. SB 1149 offered energy supplier choice to nonresidential customers by October 2001. Residential customers would be offered a portfolio of options including green power. In August 2001, two new bills amended the restructuring law (delaying the implementation date to March 2002 for nonresidential customers) and gave the Oregon PUC new powers to balance the interests of utility shareholder with electric customers.

Under the portfolio approach, residential customers can choose among renewable energy pricing plans that rely on existing geothermal and wind sources, or contribute to salmon habitat restoration, or purchase new wind resources. As of April 2008, approximately 7.9% of residential customers in Oregon were served through one of these options (106,366 of these options have been selected, with some double counting as one customer selects more than one option).

The Oregon PUC has conducted rate cases for both major utilities to resolve default service and stranded cost issues, and put in place programs for codes of conduct. At first, the transition charge was variable, and large customers were required to commit to not return to standard offer service for five years. There were also limitations with respect to when switching could occur. As a result, no switching occurred at first. By late 2002, the transition charge had been stabilized. Direct access-eligible (nonresidential) customers may choose service from an alternative electric service supplier for 1, 3, 4, in some cases a 5 year period.

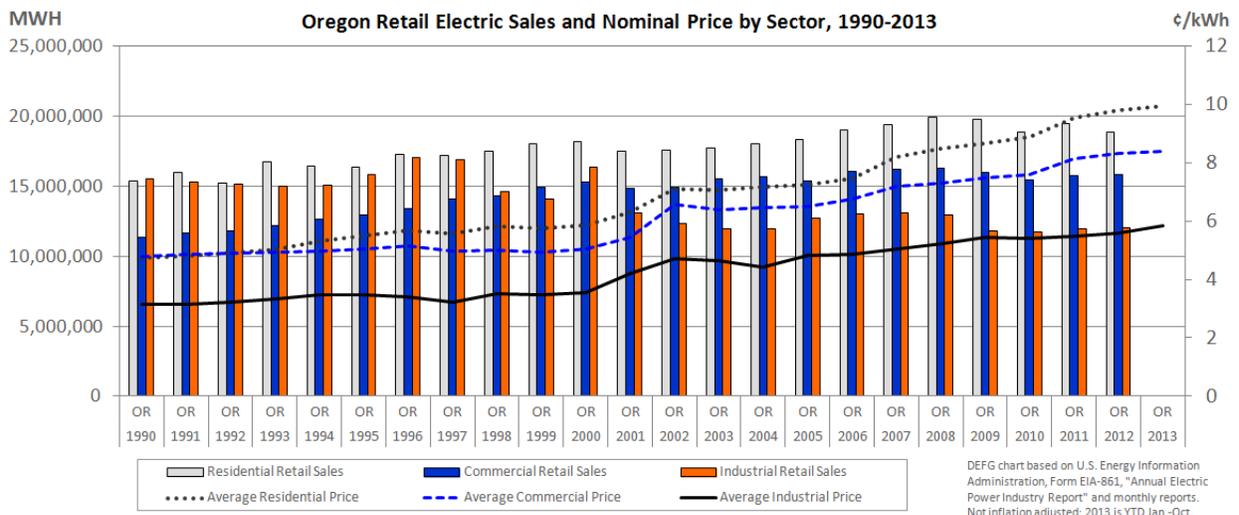
Like many other states, Oregon is engaged in a consideration of climate change issues. Under a proposed rule, utilities would be required to handle CO₂ risk by examining values that range from zero dollars to \$40 per ton.

In January 2012, PGE, industrial customers, and retail suppliers entered into a stipulation to eliminate the 3rd and 4th quarter shopping windows (retaining the annual and second quarter window). Parties asked for a statewide investigation of direct access. Parties also asked the PUC to consider wholesale-

based open access program for customers of 10 MW or greater.⁶⁷ In March 2012, the PUC opened an investigation into issues relating to direct access (Docket Order No. 12-057). Stakeholders comments were filed in September 2012.⁶⁸

Oregon Number of Suppliers in the Market July 2012	Residential	Nonresidential
State	0	3

Oregon Percent Switching July 2012	Percent of Residential Customers	Percent of Nonresidential Load
Portland General Electric	0%	10.7%
PP&L (PacifiCorp)	0%	1.4%
State Total	0%	6%



⁶⁷ Source: <http://apps.puc.state.or.us/orders/2012ords/12-057.pdf>.

⁶⁸ Source: <http://apps.puc.state.or.us/edockets/pdfs/785991081142145.pdf>.

Pennsylvania

The Electricity Generation Customer Choice and Competition Act (HB 1509) was enacted in December 1996. A pilot phase began in late 1997, and then a phase-in allowed one-third of consumers to join each year. Different utilities received different treatment with respect to initial rate decreases and the size of stranded cost recovery and competitive transition charge. A shopping credit was advertised to allow customers to compare competitive rates with the “price to compare” or “shopping credit.”

After several years the Pennsylvania Public Utility Commission (PUC) approved a change in default service rates because some consumers were gaming the system by returning to the utility rate for the summer when competitive prices typically rose, making default service rates more attractive. Under the revised system, utilities were able to impose switching restrictions and exit fees (a market based penalty called the “generation rate adjustment”) to discourage this gaming.

Competitive Default Service was authorized for 2001 for PECO Energy customers and allowed customers to be assigned to a new supplier, New Power Company. PECO retained the customers after this non-utility provider left the state. Several other utilities had similar experiences with price caps in place. In March 2002, Duquesne Light became the first Pennsylvania utility to send bills without a competitive transition charge. Duquesne was no longer subject to the rate cap. Shopping credits rise as the CTC decreases, and thus customers have a greater opportunity to find suppliers who can sell below the default service price. Most residential customer rates were capped through 2010.

Load serving entities are required to satisfy the state’s Alternative Energy Portfolio Standard which will rise to 18% of load over time. While the state as a whole is not using advanced metering, the PPL Electric service area has 100% penetration of AMI which could support competitive offers in the future. Pennsylvania committed \$5 million dollars for consumer education, including education relating to retail choice and conservation of energy.

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.

In February 2012, Governor Corbett signed Act 11 of 2012 amending Title 66 (Public Utilities) of Pennsylvania Consolidated Statutes. Utilities can petition the commission for approval to implement a Distribution System Improvement Charge (DSIC). This gives utilities an additional rate mechanism to recover the capitalized utility infrastructure costs.⁶⁹

Pennsylvania initiated a major new project by order entered on April 29, 2011 to “assess the status of the current retail market and explore what changes need to be made to allow customers to best realize the benefits of competition.” (*Investigation of Pennsylvania’s Retail Electricity Market*, I-2011-2237952.) The Office of Competitive Market Oversight (OCMO) is studying how best to deal with issues relevant to

⁶⁹ Source: http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/system_improvement_charges_act_11_.aspx.

the success of the retail market, including the phase out or elimination of default service. "The commission's goal is to make Pennsylvania the most competitive electricity market in the country," said PUC Chairman Robert Powelson. "I believe the order being voted on today provides an excellent roadmap for the commission's next steps toward achieving that goal."⁷⁰ The PUC provides regular updates of its Retail Markets Investigation on its website.⁷¹

Phase I of the project included presentations to the commission in a June 2011 *en banc* hearing, followed by comments in response to eleven questions regarding barriers to competition, the role of local distribution companies, and the design, delivery and future of default service. On July 28, 2011, the Commission issued an order and opinion and began Phase II of the project. The Commission concluded that Pennsylvania's retail market for electricity requires change in order to bring about the robust competitive market envisioned by the Electricity Generation Customer Choice and Competition Act in 1996. Phase II will be conducted by the OCMO to address the long range steps and structural changes to default service. OCMO will conduct technical conferences and present recommendations to the Commission. In its Phase I order, the commission rejected the notion that all consumers are participating in competitive electric supply markets based on the status of the wholesale market. The Commission further emphasized the need to make near-term reforms to market structure to address information access and switching; to make near-term and long-term changes to default service, and to address consumer education.

On Feb. 14, 2013, the Pennsylvania Public Utility Commission adopted a final order with default service program recommendations from its statewide Retail Markets Investigation (RMI).⁷² RMI was intended to enhance the state's retail electricity market, and its recommendations were designed to ensure that the state's regulatory framework is one that encourages a market where consumers have continued choices for electric supply. With the completion of RMI, the PUC has further advanced competitive markets. The PUC's order made necessary changes to how default service electricity is purchased and provided to non-shopping customers.

The PUC implemented Standard Offer Programs in third-quarter 2013 that allow electric distribution companies to refer non-shopping customers to a voluntary program that guarantees 7 percent off the utility's "Price to Compare" at the time of enrollment. Since the program's inception in August 2013, more than 41,000 electric customers have chosen to enroll with a competitive supplier, a nearly 85 percent enrollment rate.

The PUC expects to take final action in second-quarter 2014 on a "Joint Bill" that will be more supplier-oriented, possibly including a supplier logo and increased messaging for suppliers on the electric bill, along with making switching information more conspicuous on the bill. The Commission upgraded and increased visitors to PAPowerSwitch.com through new renewable energy and ways to save energy pages, improved sorting and filtering, and a new "Shop for Your Small Business" page to empower small businesses (peak demand of 25 kW or less) to shop for their electric generation on PAPowerSwitch.com in the same manner as residential customers. The RMI final order directed a statewide campaign to drive consumers to PAPowerSwitch.com and educate consumers about market changes.

The PUC implemented accelerated switching, reducing the confirmation period from 10 days to five days and is considering other opportunities with the use of advanced metering. The PUC launched a review of

⁷⁰ Restructuring Today, July 29, 2011.

⁷¹ See: http://www.puc.state.pa.us/utility_industry/electricity/retail_markets_investigation.aspx

⁷² Final Order, Investigation of Pennsylvania's Retail Electricity Market: End State of Default Service, Docket No. I-2011-2237952, Pennsylvania Public Utility Commission, February 22, 2013.

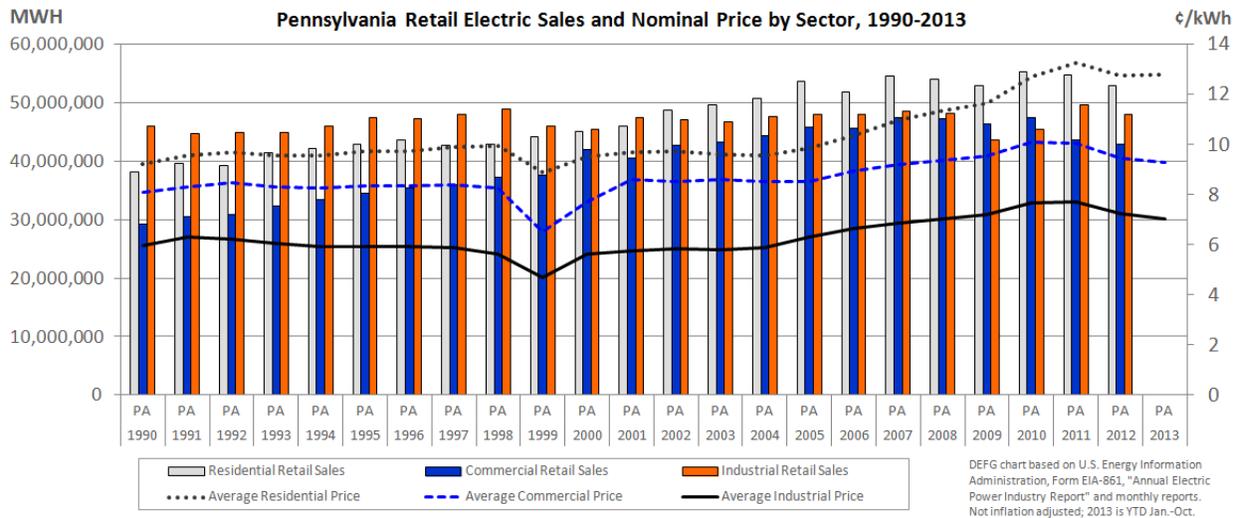
account-number look-up mechanisms to facilitate supplier marketing at community events and venues that will conclude in summer 2014. The PUC hosts calls every six weeks with suppliers, utilities and advocates to discuss market issues. The PUC recently proposed reduced supplier bonding requirements proposed to accept additional forms of security from suppliers

On Oct. 29, 2013, during its 2013 Fall Policy Roundtable conference, the National Energy Marketers Association (NEM) presented the Pennsylvania PUC with NEM’s Outstanding Achievement Award for the PUC’s success in structuring competitive energy markets in Pennsylvania.

Pennsylvania Number of Suppliers and Products in the Market October 2013	Residential Suppliers	Residential Products	Nonresidential
West Penn Power (Allegheny Power)	21	32	35
Duquesne Light	37	49	53
MetEd (First Energy Corp.)	35	51	45
Penelec (First Energy Corp.)	26	41	39
PECO Energy	51	75	56
Penn Power	13	20	27
PPL Electric	50	74	56
UGI	0	0	16

As of January 15, 2014, a total of 1,876,903 residential customers (households) in Pennsylvania received competitive electric service.

Pennsylvania Percent Switching in Utility Distribution Regions January 2014	Percent of Residential Customers	Percent of Commercial Load (MW)	Percent of Industrial Load (MW)	Percent of Total Load (MW)
Duquesne Light	44.1%	97.5%	97.6%	83.5%
MetEd*	35.7%	67.7%	97.3%	64.2%
PECO Energy	32.0%	69.0%	95.0%	62.0%
Penelec*	36.9%	66.3%	93.5%	67.2%
Penn Power	36.8%	65.1%	96.0%	62.8%
Pike County	59.0%	59.0%	49.0%	58.0%
PPL	46.4%	88.9%	98.7%	75.2%
UGI	0.0%	37.3%	77.2%	21.4%
West Penn Power**	31.9%	63.5%	87.0%	60.3%
State Total	37.7%	85.5%	97.5%	72.3%
* Formerly reported as MetEd/Penelec				
** Formerly reported as Allegheny Power				

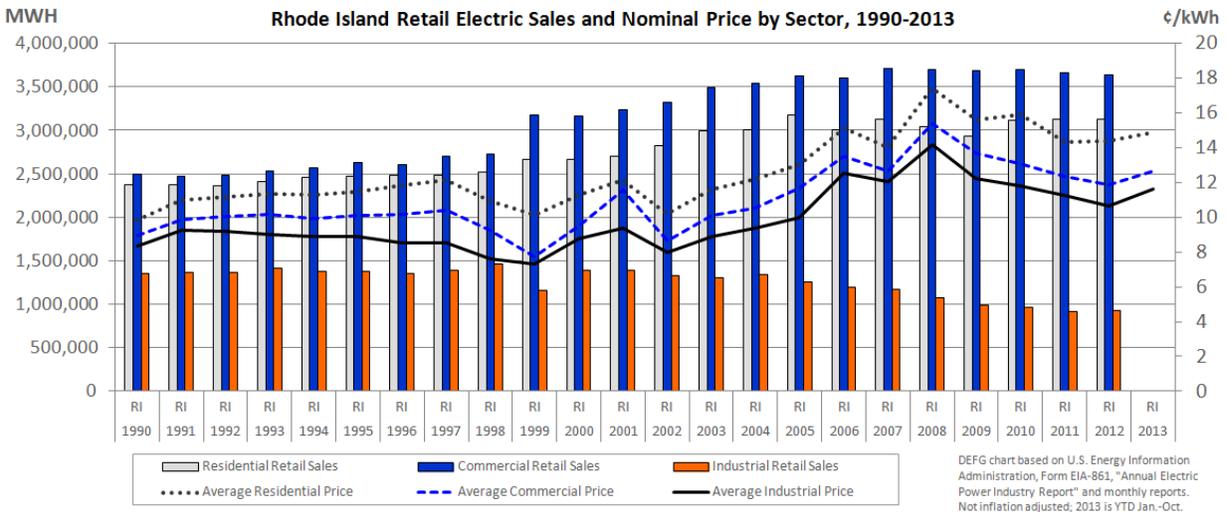


Rhode Island

In August 1996, legislation (HB 8124) passed, and Rhode Island became the first state to begin phase-in of statewide retail wheeling in July 1997 for industrial customers. Residential consumers were guaranteed retail access by July 1998. Very few customers switched because of the low standard offer service rate. SB 881, enacted May 2001, enabled non-residential customers enrolled in last resort service the option to return to standard offer service. These customers are required to sign a 2-year agreement prohibiting self-generation during non-emergency conditions and prohibiting remarketing of purchased electricity.

In February 2012, National Grid filed the proposed Standard Offer Service (SOS) and RES Procurement plans for 2013. National Grid proposed to continue to procure SOS through a combination of full requirements service contracts and spot purchases, with the mix of long-term and spot to depend on the customer group. The RI PUC issued an order in August 2012, stating that there is "no evidence in the record that the electricity supply market has changed in a way that would necessitate a change."⁷³

Rhode Island Percent Switching September 2013	Percent of All Customers	Percent of All Load (MWH)
State Total	4.0%	33.8%



Texas

Texas developed a strong independent power industry in the 1980s as a result of growth in industrial cogeneration. The implementation of PURPA under Texas law resulted in rapid cogeneration project development. The open-access transmission regime that began in 1996 is operated by the Electric Reliability Council of Texas (ERCOT), subject to the jurisdiction of the Public Utility Commission of Texas

⁷³ Source: <http://www.ripuc.org/eventsactions/docket/4315page.html>.

(PUCT). Legislation for retail choice was enacted in 1999 (SB 7), which set out to initiate competition with a pilot project in mid 2001, to be followed with a mandatory 6% rate cut and full customer choice implementation in January 2002. During 2001 pilot project enrollment, commercial and industrial classes exceeded the 5% participation limit, resulting in a lottery to determine which customers would be eligible. The pilot project started in the summer of 2001. Full retail choice began on January 1, 2002 for customers of investor-owned utilities within the ERCOT region of Texas. During the first eighteen months of competition there were some transitional issues primarily associated with customer switching and new service hookups, but these problems were resolved and the market moved forward.

Electric cooperative utilities and municipal electric utilities may decide whether and when to opt in to retail competition. For service areas outside of ERCOT, but within Texas, the statute gives the PUCT authority to help determine when retail choice can be implemented. These areas include El Paso Electric Company, Entergy Texas (southeast Texas), AEP's Southwest Electric Power Company (northeast Texas) and Xcel's Southwest Public Service Company (Panhandle region). Customers currently do not have retail choice in these ex-ERCOT territories. The decision for when to implement retail competition is dependent on the appropriate development of competitive wholesale markets. A little more than one third of retail electric sales in Texas are ineligible because they are in service territories outside of ERCOT or provided by municipal electric utilities or electric cooperative utilities.

In most of Texas, ERCOT operates the high-voltage transmission wires, manages congestion, ensures that ancillary services are adequate, provides a market platform for wholesale competition, performs settlement, administers retail customer switching and administers the renewable energy certificate program. ERCOT's zonal congestion management system was replaced with a nodal pricing and congestion management system in 2010.

SB 7 required each investor-owned utility within ERCOT to separate their retail sales, generation, and wires (transmission and distribution) business functions. However, a holding company's business units can provide retail electric service to customers, own and operate generating units, and provide transmission and distribution service. The law also required electric distribution utilities (which remain price regulated) to refrain from retail marketing or the provision of competitive services. Texas has achieved a high degree of structural separation that has reduced the incentives for corporate integration, and reduced the concerns of competitors that the incumbent utility holds unfair competitive advantage.

At the opening of the market, residential and small commercial customers could either remain a customer of the competitive retail electric provider (REP) affiliated with the incumbent utility, or switch to an alternative REP. Those who remained with the utility affiliate paid a regulated default service rate (this was called the "price-to-beat" or PTB) that could be adjusted up to twice a year. Default service was scheduled to last for five years, and ended in December 2006. Provider of last resort (POLR) is a separate service primarily for customers whose provider goes out of business. POLR service is the only remaining fully-regulated electricity rate in the areas of Texas open for retail choice. POLR price is determined by a PUCT-approved formula based on short-term wholesale energy costs.

In addition to a supportive wholesale market structure, the success of Texas' renewable portfolio standard (RPS) and renewable energy certificate (REC) trading program has provided the impetus (along with a federal renewable energy tax credit) for rapid growth in wind turbine generation. Texas leads the nation in wind turbine capacity (10,970 MW of capacity as of November 2013) and wind energy production (28% of load on May 2, 2013).

One of the issues related to wind power is transmission line capacity necessary to move wind energy from west Texas, where it is primarily produced, toward the population centers in central and southeast

Texas. Competitive Renewable Energy Zones (CREZ) with the greatest potential for renewable energy development were identified in west Texas. In 2008, the PUCT selected its preferred plan to designate and expedite the certification process to build over 18,000 MW of transmission capacity to these zones.

In 2005, six REPs defaulted, and in 2008, five more went out of business, forcing some customers to take POLR service until they selected a new REP. Some of the failed REPs did not pay their energy bills to ERCOT, totaling more than \$11 million in losses in the two years. In response to these and other issues, the PUCT opened four new projects to consider market rule revisions. In Project No. 35767, Rulemaking Relating to Certification of Retail Electric Providers, the PUCT strengthened the certification requirements and further protected customer deposits. In Project No. 35768, Rulemaking Relating to Retail Electric Providers Disclosures to Customers, the PUCT created three types of products (fixed, variable, and indexed), restricted certain changes in pricing, and established another rulemaking to reduce the amount of time it takes to complete a customer's switch request, among other items. In Project No. 35769, Rulemaking Relating to Electric Providers of Last Resort, the PUCT established additional protections for customers and for the REPs that provide POLR service. Project No. 36131, Rulemaking Relating to Disconnection of Electric Service and Deferred Payment Plans, updated protections for at-risk customer segments.

On issues relating to energy efficiency, advanced metering and innovation, the PUCT has submitted several reports for consideration by the Texas Legislature in recent years. Advanced metering (AMI) deployment is complete in the Oncor (Dallas-Fort Worth) and CenterPoint (Houston) transmission and distribution service provider areas and nearing completion in the AEP service territory. Deployment continues moving forward in the TNMP service territory. These deployments are helping facilitate a new wave of customer-focused innovation in ERCOT. The Texas market has already seen several innovations related to smart meters to date such as: more time-of-use rates, more prepay options, and more energy management devices and services. The Texas market has also produced several other innovations in the past few years including: new offers for residential customers to lease rooftop solar systems, a new kind of rate plan that has its price capped but can go down if natural gas prices fall, and an all-in fixed price for residential that will not change for any reason during the contract term, among others.

Texas Number of Suppliers and Products in the Market November 2013	Residential Suppliers	Residential Products	Nonresidential Suppliers
Oncor Electric Delivery	52	322	*
CenterPoint Energy	53	318	*
AEP Texas Central	51	294	*
AEP Texas North	45	269	*
Texas-New Mexico Power Company	44	272	*
Nueces Electric Cooperative	3	10	*
Sharyland Utilities	9	52	*
* Published data are not available.			

Switching rates continued to rise in Texas, reaching 76.2% of eligible retail sales in the state in June 2013. The remainder is provided by the traditional “incumbent” REPs at competitive rates. Over 80% of electricity sales to commercial and industrial customers are provided by a non-incumbent REPs.

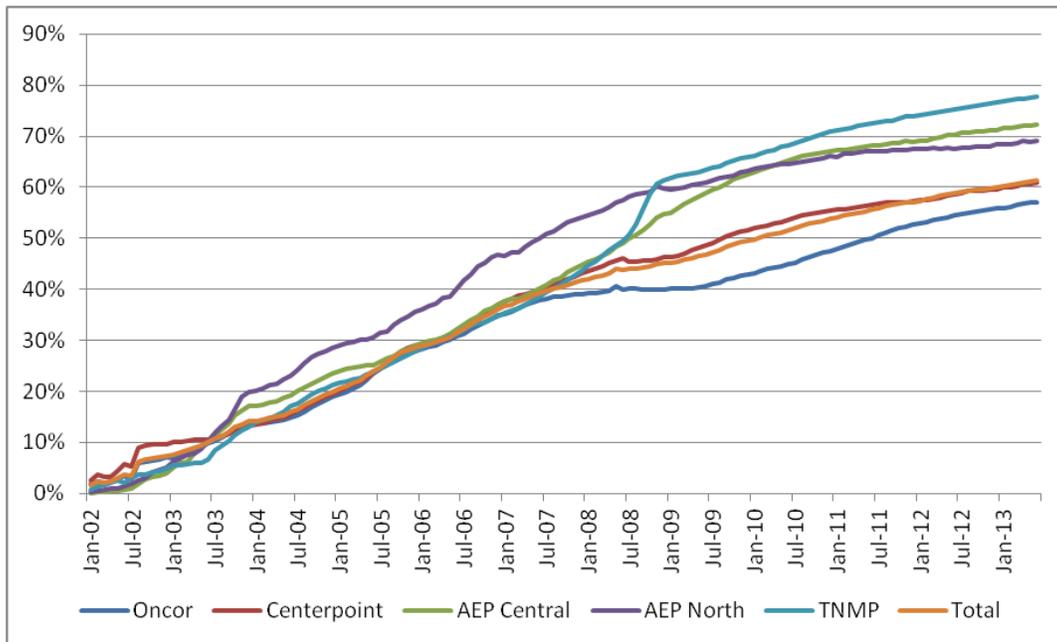
In the 2012 ABACCUS report, it was declared that Texas has achieved 100% switching away from default service in those portions of the state that permit direct retail access. From a switching perspective, there are no longer any meaningful distinctions to be made between the traditional incumbent REPs and other REPs. That is not to suggest that the retail electricity market in Texas does not require oversight. It can be argued that all markets require some level of oversight to ensure that market rules are monitored and enforced.

As of June 2013, a total of 5,825,000 residential customers (households) in Texas received competitive electric service (of these, 3,568,000 were not served by the traditional incumbent REP).

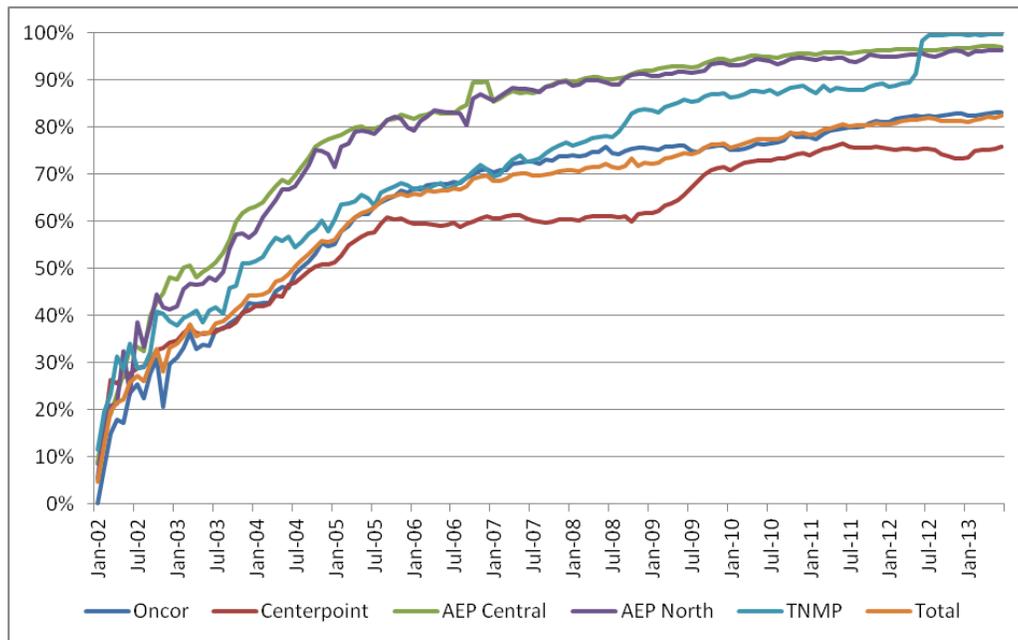
Texas Percent Switching* June 2013	Percent of Residential Customers	Percent of Small Commercial Load (MWH)	Percent of Large Industrial Load (MWH)	Percent of Total Load (MWH)
Oncor Electric Delivery	57.1%	83.2%	**	74.3%
CenterPoint Energy	61.0%	75.8%	**	72.3%
AEP Texas Central	72.3%	97.0%	**	88.9%
AEP Texas North	69.1%	96.4%	**	89.1%
Texas-New Mexico Power Company	77.8%	99.6%	**	93.3%
State Total	61.3%***	82.5%	86.8%	76.2%
<p>* The regulated default service tariff (referred to in Texas as the "price to beat") is no longer offered. Therefore, effectively all eligible retail customers receive service at a competitive prices in the portions of the state with direct retail access. These switching statistics show the percent of customers and loads no longer served by the incumbent retail electricity provider (the "affiliated REP," or a company that began on 1/1/2002 with the market share of the affiliated REP). Some retail customers have made a decision to stay with, or return to, the incumbent retail electric provider or affiliated REP.</p> <p>** Large customer switching information is not separately reported to protect large industrial customers' privacy.</p> <p>*** A September 2013 ERCOT report found that 88.6% of the eligible residential market had observably chosen a retailer via ERCOT transactions (many others have chosen plans with the incumbent). As of September 2013, 61% of residential had left the incumbent.</p>				

Trend data by class for the ERCOT portion of the state since January 2002 is also compelling. The percentage of customers served by a non-incumbent retail electric provider (REP) has grown steadily.

Percentage of Residential Customers Served by Non-Legacy REPs by Service Territory⁷⁴



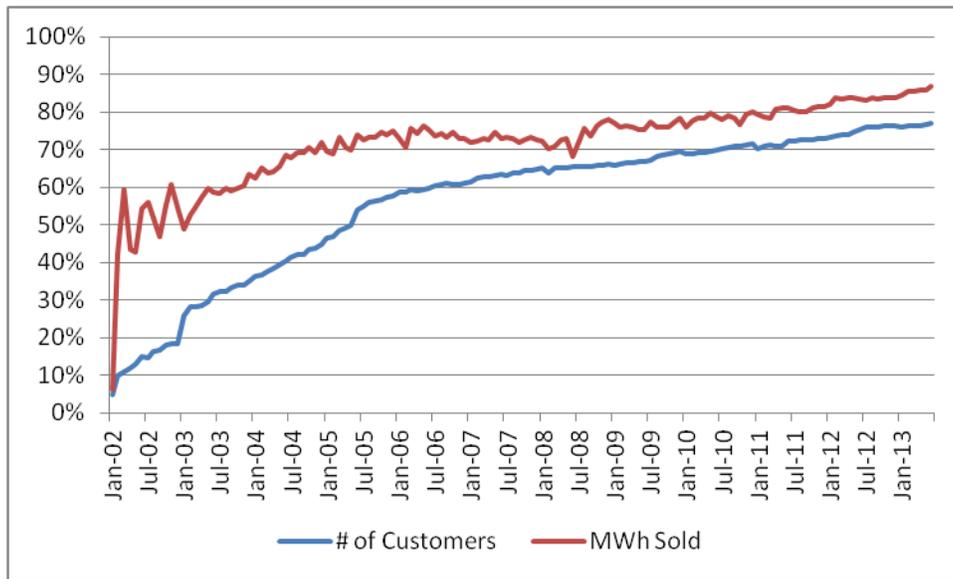
Percentage of Secondary Voltage MWh Served by Non-Legacy REPs by Service Territory⁷⁵



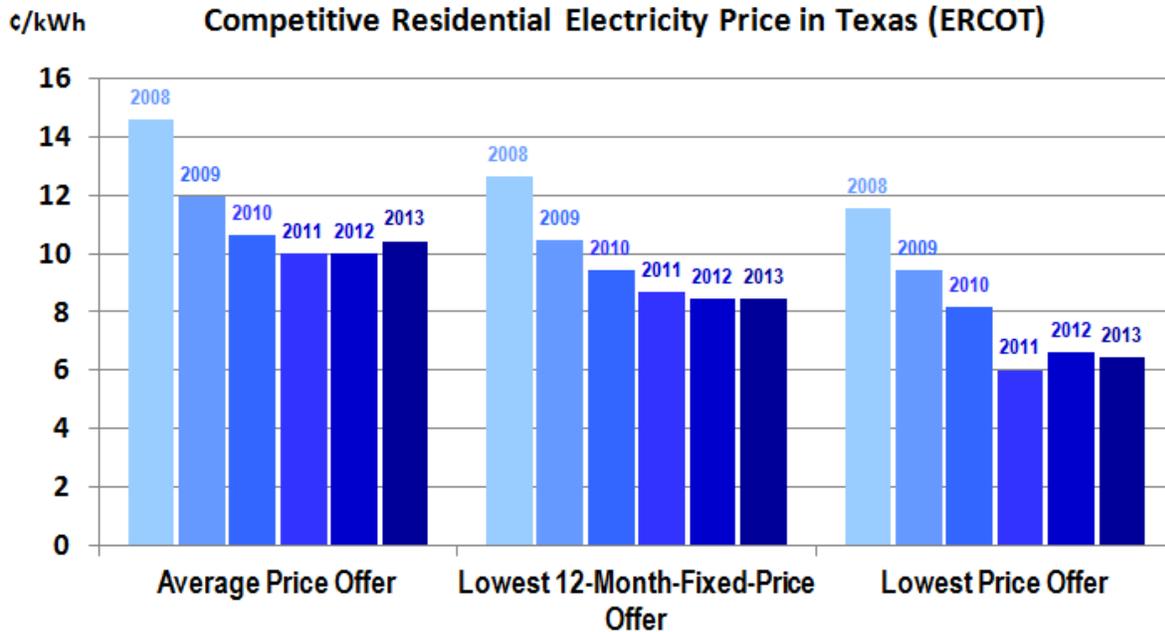
⁷⁴ Public Utility Commission of Texas, Market Share Data. See: <http://www.puc.texas.gov/industry/electric/reports/RptCard/Default.aspx>

⁷⁵ Ibid.

Percentage of Primary Voltage Customers and MWh Served by Non-Legacy REPs⁷⁶

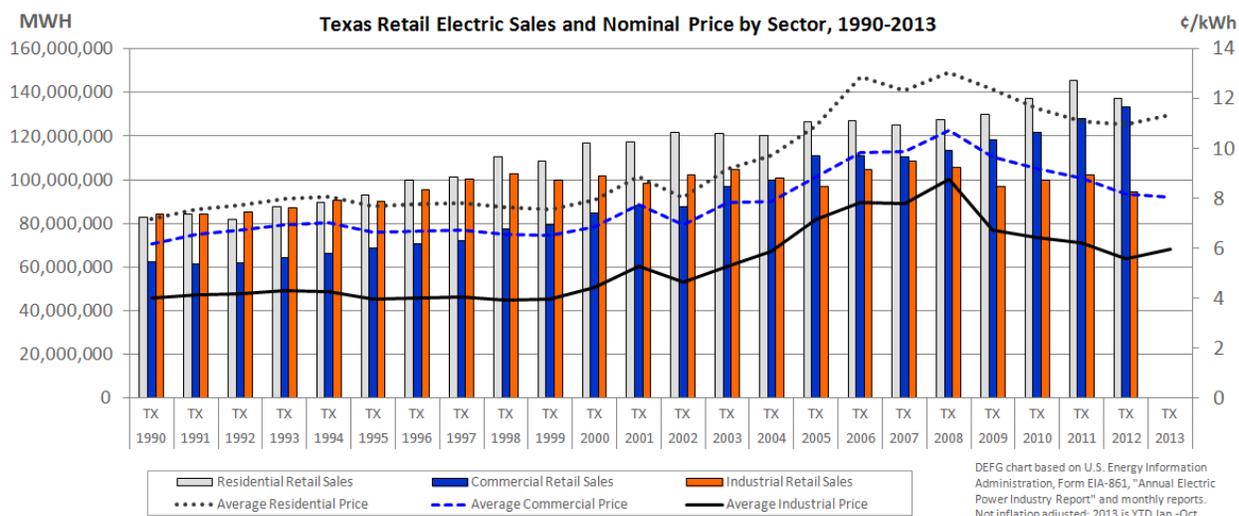


Retail electricity prices can timely adjust to commodity market conditions. That is, consumers (demand) and generators (supply) interact fairly efficiently. Retail suppliers help manage the risks of extreme prices for small consumers. The following data are from the online price comparison tool, www.powertochoose.org. The data represent the average of weekly observations, aggregated in three ways.



* Texas electricity price offers include all wires and regulatory charges. (See: powertochoose.com)
 **Each bar represents the average of the specified offers in each of the five largest utility service areas (Oncor, Centerpoint, AEP North, AEP Central and TNMP) over all 52 weeks of the year.

⁷⁶ Ibid.



Virginia

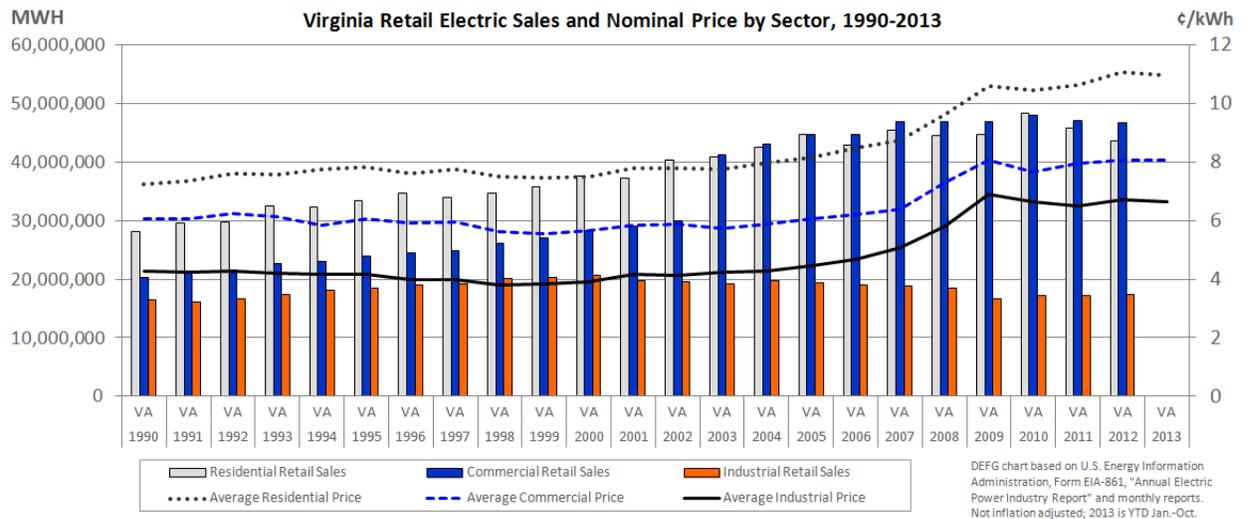
In July 1999, legislation (SB 1269) was enacted that permitted choice for retail electric customers in the state. Virginia's pilot program began in 2000 for the two largest investor-owned utilities (Dominion and American Electric Power) and one cooperative. Full retail access began to be phased-in during January 2002, with full choice to be implemented no later than January 2004. Utilities were required to functionally separate, and Allegheny Power and Connective voluntarily divested generation as part of the functional separation case.

Competitive suppliers are licensed by the State Corporation Commission (SCC) and must register with each utility. In 2001, the Virginia General Assembly amended portions of restructuring legislation to cap default service rates only until January 2007. If there are capped rates, the utility is the default provider. After January 2007, the SCC would set rates based on competitive regional electricity markets. The Legislature created a Transition Task Force and Consumer Advisory Board, which worked collaboratively with SCC. The Legislation authorized alternative providers to directly bill customers beginning January 2003. Competitive metering began January 2002 for large commercial and industrial customers, and on January 2003 for residential and small commercial customers.

The practical result of below-market capped rates was that there was no ability to choose a lower-cost alternative provider in Virginia. Only about 2,500 residential and 24 small commercial customers were served by an alternative supplier (green power choice for residential customers). A contract was awarded for a statewide consumer education program. A survey indicated that awareness was raised, but given the slow development of actual competition, the budget for the second year was reduced. The SCC issued orders to address competitive metering, consolidated billing, minimum stay provisions, distributed generation, aggregation, and market price determination.

In early 2003, legislative activity included a bill to allow Kentucky Utilities to suspend retail choice in five counties in Virginia (HB 2637); a bill to allow the SCC to experiment with "opt in" options for municipalities (HB 2319); and a bill that defers a requirement to join an RTO to the utility with an adequate showing (HB 2453). In 2007, HB 3068 and SB 1416 were enacted and signed by Governor Kaine, and Virginia suspended retail choice.

Since December 2008, most consumers cannot purchase electric generation service from competing suppliers. Large customers (> 5 MW) can purchase power from competitive service providers (CSP). Nonresidential customers can aggregate load up to 5 MW with commissioner approval. Residential consumers can seek competitive power that is 100% renewable if the utility does not offer power that is 100% renewable. Currently, no competitive service providers serve customers in Virginia.⁷⁷



Alberta

In 1995, Alberta passed the Electric Utilities Act to initiate retail electric market restructuring in the Canadian province. Wholesale competition began in 1996. Capacity reserves were very tight in 1998 as a result of rapid growth in electricity usage. Within the competitive market framework, over 2,000 MW of new capacity were added in 1998-2001, and an additional 2,400 MW were constructed by the end of 2007. Presently there are over 12,000 MW of generating capacity in Alberta. Coal power plants generate more than one-half the electricity.

Energy-related industry is key to Alberta's economy, including oil, oil sands, natural gas, coal and minerals, and petrochemicals. Alberta serves electric demand with coal, natural gas (industrial cogeneration), hydropower, wind power and imports (transmission interconnections with British Columbia and Saskatchewan).

A 1999 pilot program gave large customers direct access to the power pool. Retail competition offered attractive options to large industrial and commercial customers enabling more than 80% of these customers to switch to competitive providers by 2008. Retail competition for customers of all sizes began on January 2001. Just prior to market opening, the wholesale market prices rose to very high levels, causing the regulators to institute a price cap – as a temporary shield against high prices – and a rate rider to collect any shortfall in revenue collection. By 2002, the wholesale prices had fallen to 1999 levels.

The Alberta Department of Energy embarked on a Retail Assessment Program to make mid-course corrections in the retail access program. The Electric Utilities Act was revised in 2003. A code of conduct addressed electric and natural gas service providers. Access to customer data is equal for competitive

⁷⁷ Source: http://www.scc.virginia.gov/comm/reports/2012_veur.pdf.

retailers and utility affiliates. A new independent system operator, the Alberta Electric System Operator (AESO), is responsible for market operations: power pool, system control, long-term transmission system planning and management and load settlement. In 2006, the Alberta Energy Utilities Board approved a standard tariff billing code for distribution utilities to ensure that retailers would receive information in a standard format. In 2007, the Legislature passed the Alberta Utilities Commission Act and divided the Energy Utilities Board into the two new regulatory bodies. The Alberta Utilities Commission continues to regulate utilities and a new conservation agency is focused on energy resource development.

For smaller customers, the energy portion of default service is calculated monthly based on forward monthly prices for locked in volumes forecast and purchased in advance of the month, encouraging risk and volatility/adverse customers to switch to competitive retailers that provide a fixed price for a term. For users of greater than 250,000 kWh per year, default service is based on spot prices.

The AESO operates an energy-only electricity market. In an energy only market design, the market determines the appropriate level of resource adequacy over the long term. The Electric Utilities Act mandates the collection and dissemination of information relating to the capacity of the interconnected electric system to meet future electricity needs. The AESO is conducting an investigation into long term resource adequacy to determine whether to create a bridging mechanism if adequacy becomes an issue. The AESO conducts two-year forecasts and has authority to take short term actions to maintain adequacy. As part of its review, the AESO is examining market conditions and incentives for investments in generation.

In a March 27, 2008 letter, Alberta's Premier Stelmach outlined five priorities to the Cabinet Ministers, including "Ensure Alberta's energy resources are developed in an environmentally sustainable way." Development of the oil sands region should rely on "processes that use less energy, less water, reduce tailings ponds and improve land reclamation." Alberta is examining carbon capture and storage research and demonstration, and implementation of a climate change strategy, including "conservation, energy efficiency and adaptation initiatives."

In a March 22, 2012 press release, the Alberta government announced the appointment of an independent committee to review the electricity retail market to help address the volatility and costs associated with the variable or default rate. "As part of its review, the four-person committee will examine how the default rate is calculated and determine ways to mitigate price fluctuations. The committee will also review whether we need a default rate, and if needed, discuss ways it could be better designed and delivered. The committee will also look at the all-in cost of electricity, and consider how charges other than energy use are determined and approved for payment by consumers."⁷⁸ The committee reported to the government in September 2012. The Minister of Energy released the report with a statement in January 2013. The report contained 41 recommendations. Thirty-three of the recommendations were accepted in principle and referred to an MLA (legislative) implementation team. The team comprised of legislators and Ministry of Energy officials. "The team will work with consumers, industry, regulators and others to ensure that we put effective, affordable and sensible solutions in place."⁷⁹

⁷⁸ "Independent committee to review electricity retail market," Government of Alberta News Release, March 22, 2012. See: www.rmrc.ca

⁷⁹ See the Ministry of Energy website: <http://www.energy.alberta.ca/Electricity/3406.asp>

Alberta Number of Suppliers in the Market October 2013	Residential	Residential Products	Nonresidential
Province	20	50	32

As of August 2013, a total of 572,100 residential customers (households) in Alberta received competitive electric service.

Alberta Percent Switching August 2013	Percent of Residential Customers	Percent of Small Commercial Load (< 250 MWH/yr) (MWH)	Percent of Large Industrial Load (> 250 MWH/yr) (MWH)	Percent of Total Load (MWH)
Province	40.0%	62.2%	93.8	80.4%

Ontario

In 1998, legislation was enacted to provide authority for retail restructuring in Ontario. In April 1999, Ontario Hydro's assets were split into five successor entities. Ontario Power Generation, Inc. (OPG) assumed the generation business formerly operated by Ontario Hydro. Hydro One Inc. (formerly Ontario Hydro Services Company) assumed the network business and operated the transmission, distribution, and energy services businesses. The remaining three, operating on a not-for-profit basis, were the Electrical Safety Authority (the industry's safety inspection agency), the Independent Market Operator (responsible for operating and administering the new market and ensuring reliability and access to transmission and distribution systems), and the Ontario Electricity Financial Corporation (responsible for managing and retiring Ontario Hydro's outstanding debt and other obligations).

While future stranded costs were prohibited at that time, two types of payments by users were used to retire stranded costs incurred before restructuring: (1) a phased divestiture of the generation assets over a 10-year period to mitigate Ontario Power Generation's market power in Ontario, and (2) a per-kilowatt-hour charge (referred to as debt retirement charge) on the monthly bills to all electricity users to retire the outstanding debt held by the Ontario Electricity Financial Corporation.

In May 2002, Ontario opened its retail electricity market to all consumers. A high switching rate was attributed to the establishment of a formal Electronic Business Transactions (EBT) process, which included retail customer enrollment, testing, and scrubbing prior to market open. Ontario identified and corrected a large number of errors prior to full implementation. Ontario also initiated competitive billing and pass-through of default provider price risk, where majority of default providers sought exemption from a fixed reference price. In July 2002, the Energy Consumers' Bill of Rights came into effect, creating new rules to protect low-volume consumers.

Record temperatures in summer of 2002 drove up the demand and market price. Concerns over these prices led to the passage in December 2002 of the Electricity Pricing Conservation and Supply Act 2002.

This act mandated a fixed generation price of 4.3 cents per kWh for the electricity of low-volume consumers. Refunds were to be provided for amounts paid above 4.3 cents, retroactive to May 2002. Taxpayers were expected to make up the difference between market price and the capped rate.

In December 2004, the Government of Ontario passed the Electricity Restructuring Act of 2004, which reorganized the province's electricity sector, amended the Ontario Energy Board Act of 1998, and the Electricity Act of 1998. The act created a new Ontario Power Authority to ensure supply adequacy, created a new Conservation Bureau to set targets for conservation and renewable energy, redefined the role of the Independent Electricity Market Operator and renamed it the Independent Electricity System Operator (IESO), and regulated certain prices to ensure price stability.

The Regulated Price Plan (RPP) sets stable prices for small consumers with an inverted block schedule (use more, pay more) and a seasonal schedule that is updated every six months. In April 2008, the May 2008 – April 2009 prices were set. The prices are based on forecast hourly prices with an adjustment for the balancing account (unexpected variance) for past months. Customers with advanced meters are exposed to different prices than those with conventional meters. Effective May 1, 2012, the lower tier price is 7.1 cents and the higher tier price is 8.8 cents. This amount is reflected on the “electricity” line on consumer's bills. The price threshold is 600 kWh per month in the summer and 1,000 kWh per month in the winter.

Ontario has a Smart Metering Initiative to create a culture of conservation and a platform for demand management. Province-wide deployment of smart meters is almost complete through the Smart Metering System Implementation Program (SMSIP). A pilot time-of-use rate was available to residential customers. The local distribution utilities own the meters, and the IESO maintains the interfaces and the meter data management and data repository (MDM/R) functions. On August 4, 2010, the Board issued a determination (EB-2010-0218) under section 1.2.1 of the Standard Supply Service Code to mandate time-of-use pricing for RPP customers.

As of June 2012, there were 4,770,289 installed smart meters, 4,424,439 meters enrolled with the MDM/R and 4,258,094 customers on TOU billing. (That is, 99% of Regulated Price Plan (RPP) eligible consumers have a smart meter installed, 92% have a smart meter that is enrolled with the MDM/R and 89% are on TOU pricing.)⁸⁰ The “Regulated Price Plan (RPP) Time-of-use (TOU)” prices are currently (Sept. 2012) 6.5 cents off peak, 10.0 cents mid-peak, and 11.7 cents on peak. (Average power costs for the province were 8.2 cents according to the OEB's “2011 Yearbook of Electricity Distributors” dated September 12, 2012.) These prices are reviewed every May 1 and November 1 by the Ontario Energy Board (OEB). The OEB reviews the rates based on electricity prices over the previous six months, as well as its forecast of future prices over the next year.⁸¹

The Energy Consumer Protection Act, 2010 (ECPA), adopted May 18, 2010, became effective on January 1, 2011. ECPA established a new framework for greater consumer protection and for the regulation of licensed electricity retailers. On October 27, 2010 the Board issued a letter to stakeholders regarding “A Renewed Regulatory Framework for Electricity.” The letter described significant levels of investment in generation (especially renewable resources), transmission and distribution over the next few years. The Board will focus on long-term outcomes that ensure that the Province's electricity system provides value to consumers.

⁸⁰ Source: http://www.ontarioenergyboard.ca/OEB/_Documents/SMdeployment/Monthly_Monitoring_Report_June2012.pdf.

⁸¹ Source: OEB website <http://www.ontarioenergyboard.ca/OEB/Consumers/Electricity/Smart+Meters>.

Under new legal and regulatory requirements that come into force on January 1, 2011, licensed electricity retailers/suppliers may not enter into, renew, amend or extend the term of a contract with a low-volume consumer until such time as the supplier has filed with the Board a “Certificate of Compliance” and received written acknowledgement of it. The certificate of compliance sets forth the marketing approaches to be used (door to door, direct mail, Internet, telephone, etc.) and the protections relating to disclosures, verifications, contract renewals, and remediation processes. While sixteen companies are listed by the OEB as serving low volume consumers, several of these only sell related energy services (such as the “greening” of default service power). Others describe electricity plans for residential consumers but do not provide prices, and thus do not meet the ABACCUS report standard regarding what constitutes a comparable offer for residential consumers.

Ontario Number of Active Suppliers and Products in the Market September 2012	Residential	Residential Products	Nonresidential *
Province	5	5	45
* Licensed electricity retailers.			

Switching statistics (data regarding the number or percent of consumers who have chosen a pricing plan other than the default price) are not accessible on the Ontario Energy Board website and not provided to the public.⁸²

⁸² Data requests by this author have been refused by OEB officials.

Ontario Selected Electric Distribution Utilities*	Residential Customers December 2012	Residential Sales 2012 (GWH)	Distribution Revenue Cents/ Billed kWh**	Nonresidential Sales 2012 (GWH)
Enersource Hydro Mississauga Inc.	173,444	1,583	2.6	5,992
Horizon Utilities Corporation	215,025	1,658	3.7	2,969
Hydro One Brampton Networks Inc.	127,956	1,171	2.8	2,636
Hydro One Networks Inc.	1,091,935	12,008	6.5	9,817
Hydro Ottawa Limited	278,056	2,235	3.6	5,308
London Hydro Inc.	134,714	1,129	3.2	2,158
PowerStream Inc.	297,962	2,728	3.0	5,595
Toronto Hydro-Electric System Limited	629,049	5,204	4.2	19,352
Veridian Connections Inc.	104,060	956	3.1	1,571
Province Total	4,354,381	40,391	4.3	77,079
<p>* Ontario has 76 Electric Distribution Utilities. Those shown have more than 100,000 residential customers. All data are from the OEB's "2011 Yearbook of Electricity Distributors" dated September 12, 2012, with some calculations by DEFG.</p> <p>** Canadian dollars.</p>				

Appendix E: ABACCUS Methodology

Introduction

The Annual Baseline Assessment of Choice in Canada and the United States (ABACCUS) was created to compare and contrast the states and provinces in North America with regard to their electric industry structure and performance. The states and provinces are social science laboratories; that is, we can observe the outcomes of alternative regulations and energy policies.

Electricity is fundamental to the economies of the U.S. and Canada and it is hard to imagine our way of life without it. A great deal of money has been invested in the electric industry. Much value is at stake as we determine whether regulatory reforms are needed, that reforms are best, and what changes to market structure are appropriate. There are contentious debates over the rights of different market participants. This is to be expected because different companies with different business plans are interested in the business opportunities and outcomes.

The ABACCUS report should help states and provinces look beyond issues that are framed ideologically. We can assess what works well and what does not work very well. If a decision is made to implement direct access or retail electricity choice, then the ABACCUS report should act as a guide to policy makers as they seek to make good decisions. The ABACCUS report highlights the best market structures, policies and practices to support and sustain retail electricity markets and facilitate individual consumer choice.

A hallmark of the ABACCUS methodology is the breadth of the issues explored. The ABACCUS methodology presumes that retail electricity markets cannot be assessed in terms of one metric such as the average price of the electric commodity. ABACCUS relies on 49 metrics – referred to as attributes – to assess each jurisdiction (or each transmission and distribution utility service territory) from the perspective of residential consumers and commercial/industrial consumers.

This section describes each attribute and the question it answers. It explains the options under each attribute that describe the situation in each jurisdiction. Some questions apply to all consumers; some are specific to residential consumers; and others only apply to C&I consumers. Scoring of each attribute is on a zero- to ten-point scale. Options associated with successful retail electricity markets are assigned more points. After scoring each attribute, weights are applied to reflect the different level of importance the attributes. The weighted scores result in a ranking, and the rankings indicate whether a jurisdiction is improving or falling behind in its implementation of competitive retail electricity markets relative to other jurisdictions.

How is success measured? Some experts like to rely on the average electricity prices in the jurisdictions, and then attribute success to lower commodity prices, almost without regard to other factors. While the price of the commodity is important, the ABACCUS methodology is focused on the underlying market structures, regulatory policies, and rules and practices that will influence electricity pricing over the long term. ABACCUS is also focused on other outcomes that are important to consumer, including greater choice, more types of products and services and greater freedom in making choices. Other measures of performance include greater switching and increased opportunities for retail energy providers. ABACCUS puts a premium on the development of highly differentiation services for consumers, innovation in technologies, the delivery of services that consumers prefer and future opportunities.

Energy markets are volatile, and short- to mid-term price changes may tell us more about past decisions than about future opportunities and market performance. The ABACCUS report monitors long-term price changes in charts presented in the state-by-state description portion of the report. It is useful to observe long-term trends, but it is probably not very instructive – if you are interested in restructured markets – to focus on year-over-year price changes.

Grouping of Attributes

Each attribute is associated with an important question. Some of these questions relate to market structure, such as “what entities are permitted to sell electricity?” or “who can own power plants and sell power?” Another set of attributes relate to the regulated rates that are designed to protect consumers during a transition period, especially the degree to which regulated rates interfere with the emerging competitive market. A third set of questions relate to the day-to-day operation of the market, such as “can a customer switch providers whenever s/he wants to?” or “do retail energy providers have access to customer lists for marketing purposes?” or “who keeps track of customer switching details so that the market associates the right meter with the appropriate energy provider?” Fourth, there are questions about facilitating the market and the new market participants. For example, “has the state created a platform where consumers can compare prices?” and “what has the jurisdiction done to encourage investment in on-site generation or new services that rely on advanced metering infrastructure?” Finally, there are questions relating to the performance of the retail electricity markets, such as “how many retail electric providers can I choose from?” or “how many product or service choices are there?” or “what percentage of customers have switched to a new energy provider?”

The attributes fall into one of five groups:

- **Market Structure** ... relating to the fundamental rights and responsibilities of the market participants
- **Default Service** ... relating to the design of the regulated basic, standard or default electric service available to retail consumers
- **Transactions** ... relating to the day to day transactions that market participants perform to buy and sell electricity
- **Facilitation** ... relating to policies and rules that encourage or frustrate retail energy providers as they interact with retail consumers and the T&D utilities
- **Performance** ... relating to the outcomes which we use to talk about how healthy the market is

If you are familiar with past report, you will notice that the 2012 methodology has been updated in 2013. To begin with, the two methodologies – residential and C&I – have been merged into one. This reduces repetition since several attributes apply to both the residential market and the C&I retail market. If an attribute only applies to the residential market, then the weight assigned to it for the residential ABACCUS calculation is a positive percent, while the weight assigned for the C&I calculation is 0%. Where an attribute applies to both, then the weights are positive for both the residential and C&I calculations. These assigned weights may not be exactly the same.

Table of Groups, Metrics and Key Issues

No.	Group	Metric	Key Issue
1	Market Structure	TDU Divestiture	Must the TDU divest itself of all generating capacity?
2	Market Structure	TDU Generation Ownership	Does the TDU or its affiliates own or control generating assets in the applicable market?
3	Market Structure	TDU Obligation to Serve	Is the TDU responsible for power delivery, metering service, and electricity sales?
4	Market Structure	TDU Sale of Electricity	Does the TDU sell electricity to retail consumers?
5	Market Structure	TDU Provision of Premises Services	Does the TDU provide premises-based service to the consumer?
6	Market Structure	Competitive Safeguards	Does the TDU operate under a code of conduct that governs relations with its affiliates and is that code consistently enforced?
7	Market Structure	Residential Eligibility	What percentage of residential consumers in the jurisdiction is eligible?
8	Market Structure	C&I Eligibility	What percentage of C&I electricity sales in the jurisdiction are eligible?
9	Market Structure	Market Size	What are the annual electricity sales? (How large are the business opportunities?)
10	Market Structure	Bulk Power Market Structure	How is the relevant bulk power market organized?
11	Market Structure	Open Market Criteria	Does the relevant bulk power market satisfy nationally-established criteria for open-market competition?
12	Market Structure	Market Monitor	Is the market monitoring function conducted in an independent, transparent and thorough manner?
13	Market Structure	Demand Response Programs	Has the ISO developed a comprehensive set of demand response programs to facilitate load participation in bulk power markets?
14	Default Service	Residential Default Supplier	Who provides default service to residential consumers?
15	Default Service	Medium C&I Default Supplier	Who provides default service to medium C&I consumers?
16	Default Service	Large C&I Default Service	Is default service offered to large C&I loads, but only below a certain size limit?
17	Default Service	Residential Default Service Product Options	Is residential default service a substitute for choices in the competitive market?
18	Default Service	Medium C&I Default Service Product Options	Is medium C&I default service a substitute for choices in the competitive market?

No.	Group	Metric	Key Issue
19	Default Service	Residential Default Price Adjustment	How frequently is the default service price adjusted to the market price?
20	Default Service	Medium C&I Default Price Adjustment	How frequently is the default service price adjusted to the market price?
21	Default Service	Large C&I Default Price Adjustment	How frequently is the default service price adjusted to the market price?
22	Default Service	Residential Default Resource Portfolio	Does the default service provider hedge the resource portfolio?
23	Default Service	Medium C&I Default Resource Portfolio	Does the default service provider hedge the resource portfolio?
24	Default Service	Residential Default Cost Allocation	Does the default service rate reflect the cost of service?
25	Default Service	Medium C&I Default Cost Allocation	Does the default service rate reflect the cost of service?
26	Transactions	Residential Default Switching Restrictions	Are consumers restricted in any way from switching from default service to a competitive supplier?
27	Transactions	Medium C&I Default Switching Restrictions	Are consumers restricted in any way from switching from default service to a competitive supplier?
28	Transactions	Residential Switching Period	What is the minimum number of days necessary to switch a residential consumer to a new provider?
29	Transactions	Residential Billing	Who bills the residential customer?
30	Transactions	Treatment of Bad Debt	Who is responsible for bad debt?
31	Transactions	Standard Electronic Data Exchange	Does the jurisdiction require the use of a standard electronic data exchange (EDI) for business transactions?
32	Transactions	Uniformity of Standards	Does the jurisdiction apply uniform standards for the operation of competitive retail markets?
33	Transactions	Administration of Switching	Does a central, fully-independent organization handle all customer switching requests?
34	Transactions	Access to Residential Customer Information	Do qualified retailers have easy access to basic customer information?
35	Transactions	Access to Customer Usage Data	Do retailers have timely access to detailed electricity usage data?
36	Transactions	Electricity Usage Data Security and Customer Privacy	Has the jurisdiction established clear policy and practice regarding the security of customer usage data, customer data privacy, and the appropriate uses of customer usage data?
37	Facilitation	Jurisdiction Commitment to Electric Competition	Is the jurisdiction committed to implementation of a competitive market?

No.	Group	Metric	Key Issue
38	Facilitation	Consumer Access to Price Comparisons	Does the jurisdiction maintain a website for residential consumers with: a) up-to-date prices and offers from all REPs, b) price and attribute comparison functionality, and c) links to REP terms and conditions and to the REP website.
39	Facilitation	Advanced Metering Infrastructure	To what level has the jurisdiction deployed advanced metering infrastructure?
40	Facilitation	On-site Generation Alternatives	Do C&I customers have interconnection and distribution system access that facilitates the use of DG as an alternative?
41	Performance	Number of REPs Making Residential Offers	How many REPs are making offers to residential customers?
42	Performance	Number of REPs Making Medium C&I Offers	How many REPs are making offers to medium C&I customers?
43	Performance	Number of REPs Making Large C&I Offers	How many REPs are making offers to large C&I customers?
44	Performance	Number Residential Offers	How many distinct offers are available from REPs to residential customers?
45	Performance	Types of Residential Offers	How many different product and service types do REPs offer to residential customers?
46	Performance	Residential Net Switching to Competitive Service	What percentage of eligible residential customers receive service on a competitive product?
47	Performance	Annual Switching Percentage	What percentage of eligible residential customers changed service providers during the past 12 months?
48	Performance	Medium C&I Net Switching to Competitive Service	What percentage of eligible medium C&I customers receive service on a competitive product?
49	Performance	Large C&I Net Switching to Competitive Service	What percentage of eligible large C&I customers receive service on a competitive product?

Table of Metrics and Weights

No.	Metric	ABACCUS Residential Weights	ABACCUS C&I Weights
1	TDU Divestiture	--	2%
2	TDU Generation Ownership	--	2%
3	TDU Obligation to Serve	1%	2%
4	TDU Sale of Electricity	1%	2%
5	TDU Provision of Premises Services	2%	3%
6	Competitive Safeguards	2%	3%
7	Residential Eligibility	3%	--

No.	Metric	ABACCUS Residential Weights	ABACCUS C&I Weights
8	C&I Eligibility	--	3%
9	Market Size	4%	4%
10	Bulk Power Market Structure	3%	2%
11	Open Market Criteria	3%	3%
12	Market Monitor	--	3%
13	Demand Response Programs	2%	8%
14	Residential Default Supplier	8%	--
15	Medium C&I Default Supplier	--	4%
16	Large C&I Default Service	--	4%
17	Residential Default Service Product Options	6%	--
18	Medium C&I Default Service Product Options	--	4%
19	Residential Default Price Adjustment	10%	--
20	Medium C&I Default Price Adjustment	--	4%
21	Large C&I Default Price Adjustment	--	4%
22	Residential Default Resource Portfolio	10%	--
23	Medium C&I Default Resource Portfolio	--	4%
24	Residential Default Cost Allocation	6%	--
25	Medium C&I Default Cost Allocation	--	4%
26	Residential Default Switching Restrictions	6%	--
27	Medium C&I Default Switching Restrictions	--	4%
28	Residential Switching Period	--	--
29	Residential Billing	2%	--
30	Treatment of Bad Debt	1%	--
31	Standard Electronic Data Exchange	2%	3%
32	Uniformity of Standards	3%	3%
33	Administration of Switching	2%	3%
34	Access to Residential Customer Information	3%	--
35	Access to Customer Usage Data	2%	--
36	Electricity Usage Data Security and Customer Privacy	2%	3%
37	Jurisdiction Commitment to Electric Competition	2%	--
38	Consumer Access to Price Comparisons	2%	--
39	Advanced Metering Infrastructure	2%	--
40	On-site Generation Alternatives	--	3%
41	Number of REPs Making Residential Offers	4%	--
42	Number of REPs Making Medium C&I Offers	--	4%
43	Number of REPs Making Large C&I Offers	--	4%
44	Number Residential Offers	2%	--
45	Types of Residential Offers	1%	--
46	Residential Net Switching to Competitive Service	3%	--
47	Annual Switching Percentage	--	--
48	Medium C&I Net Switching to Competitive Service	--	4%
49	Large C&I Net Switching to Competitive Service	--	4%

Terminology

The terms used to describe electric utilities and retail energy providers vary by jurisdiction. In this report, we have adopted the acronym “TDU” to refer to the transmission and distribution utility and “REP” to refer to the retail energy provider. Commercial and industrial consumers are referred to as “C&I.”

Transmission and distribution utilities are called electric distribution utilities or local distribution companies or “wires company” in various jurisdictions. Each jurisdiction has a widely-adopted term, and the laws in each jurisdiction may make small, important distinctions that are confusing if you do not know the administrative and its precedents in the jurisdiction. “TDU,” as used here, is intended to generically refer to all entities that provide wires services to connect power generating units to consumers. “TDU” includes all utilities without regard to size, ownership, management or regulatory framework. That is, TDUs may include government utilities (municipal, state and federal), electric cooperatives (member owned), and investor-owned utilities (traded or privately held). It is significant to not that if someone refers to a TDU or even to a “wires-only company,” they may or may not be referring to a company that offers services other than power delivery.

The term “retail electric provider” (REP) is used in Texas, and this has been broadened in this report to include all retail energy sales and services. “REP” refers here to the retail energy provider—the competitive supplier that sells electricity, natural gas or other energy-related commodities and services. REPs go by a variety of names in other jurisdictions (see Appendix B), which can create confusion. The acronym “REP,” or a similar term, will become widely adopted throughout North America as the markets become more widespread and better integrated.

Market Structure

Market structure relates to the fundamental rights and responsibilities of the market players. In creating a market structure, government determines who can and cannot generate electricity; who can and cannot sell electricity; who can and cannot interact in various ways with the independent system operator, and whether there will be an ISO; who can and cannot provide the monopoly services, and what other services they are allowed to provide; and who bears the responsibility to maintain sufficient reserve capacity, or whether there will be such requirements.

Each of these decisions may affect the performance of the retail electricity market. For example, as long as there are regulated, monopoly providers of distribution service, government must determine whether such utilities have a responsibility to deliver power, or whether they are responsible to provide electric service. These may seem similar, but reliably delivering power to a meter is different than reliability selling electricity and providing the associated basic services (billing, customer service, call center) or advanced services (energy efficiency information or programs, alternative rate designs, mobile phone apps, in-home energy management devices).

Market structure extends as well to the issue of which customers are eligible to purchase electricity from competitive providers (are the consumers of municipal utilities and electric cooperatives included?), and the structure and oversight of the bulk power market from which power is acquired.

1. TDU Divestiture

(Similar to 2012 Residential Methodology: D.1 Distribution Utility Structure and 2012 C&I Methodology: D.1 Electric Distribution Utility Structure)

1	Market Structure	TDU Divestiture	Must the TDU divest itself of all generating capacity?
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Options and Points

Complete corporate divestiture	10
TDU divests / affiliate may own	9
TDU allowed to own generating assets	0

This attribute assesses the *right* of the TDU or its affiliates to own and operate competitive generation assets or provide power services. (Actual ownership of generating assets is considered in the next attribute.)

A market structure that limits TDU activities to the provision of monopoly transmission and distribution services (power delivery services) creates a clean separation between the regulated and competitive functions and services. The wires-only TDU can then conduct all transactions with all market participants—including its affiliates—on an equal, arm’s-length basis. No stakeholder need be concerned about competing with the TDU if the TDU is restricted to providing monopoly services.

2. TDU Generation Ownership

(This is a new metric.)

2	Market Structure	TDU Generation Ownership	Does the TDU own or control generating assets in the applicable market?
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Options and Points

TDU does not own generating assets	10
TDU owns incidental generating assets	7
TDU owns generating assets	0

This attribute assesses whether the TDU *owns and operates* competitive generating assets or provides power services in the applicable market. It is possible to have the right to own and operate generating assets but not to exercise that right. (The legal right to own and operate generating assets is considered in the previous attribute.)

A TDU that owns and operates generating assets is providing competitive services that may affect the way it provides wires services. Its activities may affect the decisions of other stakeholders because they may be concerned about competing with the TDU. Incidental generating assets are assets that operate to enable and facilitate the reliable delivery of power and which do not operate in competitive power markets.

3. TDU Obligation to Serve

(Similar to 2012 C&I Methodology: D.3 Electric Distribution Utility Types of Services)

3	Market Structure	TDU Obligation to Serve	Is the TDU responsible for power delivery, metering service, and electricity sales?
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Options and Points

TDU has an obligation to deliver power	10
TDU has an obligation to deliver and meter power	9
TDU has an obligation deliver, meter and sell power	0

This attribute assesses whether TDU is obligated to *provide electric service* to consumers in its service territory, or whether it is obligated to just *deliver power* to the meter. (The actual provision of electric service is assessed in the next attribute.)

A TDU that is obligated to provide electric service to retail consumers will act quite differently from a TDU that is obligated to just deliver the power to an electric meter on the consumers' premises. The obligation to provide electric service carries with it a significant relationship with the retail consumer. This consumer-TDU relationship may affect others who wish to develop relationships with retail consumers. The consumer-TDU relationship places the TDU in the role of incumbent. Any effort to overcome the tendency toward permanent incumbency will require additional regulation of the TDU. Encouraging the development of a competitive retail electric market will benefit from less regulation and greater opportunities for new entrants. Further, consumers will be less confused if the transition to competition is clearly marked by the end of the existing consumer-TDU relationship and the beginning of new relationships with new retail energy providers.

4. TDU Sale of Electricity

(Similar to 2012 C&I Methodology: D.3 Electric Distribution Utility Types of Services)

4	Market Structure	TDU Sale of Electricity	Does the TDU sell electricity to retail consumers?
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Options and Points

TDU only delivers power	10
TDU engages in incidental electricity sales	9
TDU sells electricity to retail consumers	0

This attribute assesses whether TDU sells electricity to retail consumers. It is possible to satisfy an obligation to serve by outsourcing the sale of electricity to another company, hence the distinction. (The obligation of provide electric service is assessed in the previous attribute.)

A TDU that provides electric service to retail consumers will act quite differently from a TDU that does not sell electricity. The sale of electricity carries with it a significant relationship with retail consumers. This consumer-TDU relationship may affect others who wish to develop relationships with retail consumers. The incidental sale of electricity refers to a small number of legacy relationships that are not yet fully competitive. It is expected that these will diminish with time.

5. TDU Provision of Premises Services

(This is a new metric.)

5	Market Structure	TDU Provision of Premises Services	Does the TDU provide premises-based service to the consumer?
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Options and Points

TDU does not provide or administer any premises services	10
TDU administers government-mandated programs	8
TDU administers portfolio of branded programs	5
TDU offers standard portfolio of branded programs	3
TDU offers innovative portfolio of branded programs	0

This attribute measures the degree to which the TDU provides services to retail consumers on the consumers’ premises. In general, all services provided on the consumers’ premises are competitive in nature, and there are no impediments to offering consumers these services. We are referring to the sale, maintenance, operation and financing of appliances, energy monitoring devices, appliance controls, demand response services, conservation and energy efficiency services, distributed renewable energy generation, backup generators, power storage devices, power conditioning equipment, risk management services, energy budgeting, energy swaps, products and services relating to buildings and building services. For customers of all sizes, it includes price risk management. For larger customers, premises services could include construction and maintenance of electric power substations. Where allowed, it could include competitive metering functions.

As you consider that list, you may readily identify services that depend upon the cooperation or assistance of the TDU. Distributed generation is the classic example that requires interaction with the TDU, and many jurisdictions have created rules that spell out the rights and responsibilities of the parties when there is a need to interconnect DG. Other services, such as energy management and load control, rely on rules to permit access to markets.

A TDU that provides services to retail consumers on the consumers’ premises may behave in a manner that is different from a TDU that does not offer such services. The provision of premises services carries with it a significant relationship with the retail consumer. This consumer-TDU relationship may be positioned to affect relationships that retail consumers may develop with other parties. In fact, this consumer-TDU relationship could adversely affect existing competitive services, including the existing relationships between retail energy consumers and businesses that have not traditionally been

considered part of any energy utility business. Air conditioning and heating contractors, lighting contractors and other small, local enterprises that perform services for homeowners and businesses, may be affected by utility demand side management programs, for example.

TDUs that provide competitive on-premises services may use their network services to affect the behavior of consumers and limit the business opportunities of others. If TDU affiliates offer competitive services, then, at a minimum, there is the perception of unfair practices. A formal separation of regulated business units from competitive affiliates is appropriate.

6. Competitive Safeguards

(2012 Residential Methodology: D.2 Competitive Safeguards)

6	Market Structure	Competitive Safeguards	Does the TDU operate under a code of conduct that governs relations with its affiliates and is that code consistently enforced?
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Options and Points

TDU subject to strict code with all prohibitions	10
TDU subject to adequate code with most prohibitions	8
TDU subject to weak code of conduct	6
TDU not restricted by code of conduct	0

The greater the degree of separation between TDU service and other functions, the greater the likelihood that new entrants will not feel threatened by a TDU. Separation may be through corporations or through the creation of affiliates or through the application of a strict code of conduct. Regulation of affiliate relationships through a code of conduct will help to address the any concerns of competitive market participants.

This attribute considers the degree to which TDUs can interact with other business units or affiliates as is normally done, or whether an arm's length relationship is established through a strict code of conduct. A code of conduct must be consistently enforced and include: a prohibition on sharing employees and assets, a prohibition on an affiliate using the creditworthiness of the TDU, a prohibition on joint marketing and advertising, and restrictions on use of the TDU's names and logos.

7. Residential Eligibility

(2012 Residential Methodology: A.1 Eligibility of Residential Customers)

7	Market Structure	Residential Eligibility	What percentage of residential consumers in the jurisdiction is eligible?
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Options and Points

More than 95%	10
More than 85%	9
More than 75%	8
More than 65%	7
More than 55%	6
More than 45%	5
More than 35%	4
More than 25%	3
More than 15%	2
More than 5%	1
Less than 5%	0

Each jurisdiction receives a numeric data entry equal to the number of eligible residential electricity consumers in the jurisdiction divided by the total number of residential electricity consumers in the jurisdiction. This ratio is converted to percent, and rounded to the nearest 10%.

In several states, “100% eligibility” may slightly overstate reality. A few residential consumers served by municipal utilities or electric cooperatives may be exempt from competition, but under this methodology, all percents greater than 95% are rounded to 100%. In other instances, a small percentage of the rural population may be located off the main transmission grid, raising the distinction between percent on the grid and percent on or off the grid. While these details are important to each jurisdiction, these differences are not significant for ABACCUS scoring.

Eligibility is important. Each jurisdiction ought to open its electric markets to all retail consumers. A larger percentage of eligible consumers increases the market size and opportunities.

8. C&I Eligibility

(2012 C&I Methodology: A.1 Eligibility of C&I Customer Load)

8	Market Structure	C&I Eligibility	What percentage of C&I electricity sales in the jurisdiction are eligible?
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Options and Points

More than 95%	10
More than 85%	9
More than 75%	8
More than 65%	7
More than 55%	6
More than 45%	5
More than 35%	4
More than 25%	3
More than 15%	2
More than 5%	1
Less than 5%	0

Each jurisdiction receives a numeric data entry equal to the amount of eligible C&I electricity load in the jurisdiction divided by the total C&I electricity load in the jurisdiction. This ratio is converted to percent, and rounded to the nearest 10%.

Eligibility is important. Each jurisdiction ought to open its electric markets to all C&I consumer load. A larger percentage of eligible load increases the market size and opportunities.

9. Market Size

(2012 Residential Methodology: A.5 Market Size and 2012 C&I Methodology: A.7 Market Size)

9	Market Structure	Market Size	What are the annual electricity sales? (How large are the business opportunities?)
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Options and Points

More than 100,000 GWh	10
More than 90,000 GWh	9
More than 80,000 GWh	8
More than 70,000 GWh	7
More than 60,000 GWh	6
More than 50,000 GWh	5
More than 40,000 GWh	4
More than 30,000 GWh	3
More than 20,000 GWh	2
More than 10,000 GWh	1
Less than 10,000 GWh	0

Each jurisdiction receives a numeric data entry equal to the GWh sales to retail consumers in a recent year, rounded to the nearest 10,000 GWh sales. The level “100,000 GWh or greater” is a proxy for “a large retail market.” (The annual retail sales in Michigan are approximately 100,000 GWh. Twelve states are at this level or higher.) Smaller jurisdictions will receive fewer points in proportion to this standard level of 100,000 GWh in annual sales.

A large market is attractive to entrepreneurs and investors. “How large is large enough?” or “how large is not large enough?” is not a perfect science. For this measure, a threshold has been established equal to the size of the electricity market in Michigan. This is effectively a small-state penalty which should focus attention on the need for very small jurisdictions to establish policies and practices which are the same as other states. Such consistency will reduce transactions costs and lower the costs of entering a market.

10. Bulk Power Market Structure

(Similar to 2012 C&I Methodology: B.1 RTO/ISO Existence)

10	Market Structure	Bulk Power Market Structure	How is the relevant bulk power market organized?
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Options and Points

Organized energy-only market	10
Organized capacity market	10
Developing market	4
Utility operated	0

This attribute recognizes the existence of an independent system operator and records the type of market based on the degree of government intervention in the market. Capacity markets and energy-only markets are treated separately, but are scored the same for now. Energy-only markets send the clearest time-differentiated market price signals with the least administrative interference. Energy-only markets can be volatile, and are actually comprised of several markets for energy transactions and for the related or ancillary services. The time-differentiated pricing signal are strong and can result in the development of a variety of on-site or premises-based services for customers. Capacity markets are also recognized as providing clear market signals and opportunities for REPs to create products for retail customers. Other bulk power markets are indicated as emerging or “developing.” An RTO may not exist, but the market may not have developed the tools that REPs need to create products and services for consumers or to manage risk. Key portions of the market remain centrally planned and administered, thus limited the opportunities for the creation of new customer services. These three categories of organize markets can be contrasted with the utility-dominated markets. Utility-dominated markets lack and RTO or ISO and utilities may restrict new entrants through one or several mechanisms: the utility controls the rules; little energy is openly traded; there are few opportunities to provide power to utilities in open-bidding solicitations or through the centrally-administered IRP process.

11. Open Market Criteria

(Similar to 2012 Residential Methodology: B.1 Wholesale Market Competition)

11	Market Structure	Open Market Criteria	Does the relevant bulk power market satisfy nationally-established criteria for open-market competition?
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Options and Points

Advanced, organized power market	10
Mixed types of power markets	7
Emerging RTO or ISO	5
Utility-dominated subject to FERC Order 888	0

Electric regions in North America have made progress during the past 20 years to adopt practices that enhance bulk power competition. Open access transmission service facilitates power transactions and supports the operation of a reliable grid. REP access to competitive bulk power markets is important to the success of retail electric competition.

An advanced and organized bulk power market operates with a FERC-approved Regional Transmission Organization (RTO) or Independent System Operator (ISO) with the following characteristics: 1) market-based congestion management, 2) markets for balancing energy, regulation, and reserves, 3) congestion management based on a nodal design, and 4) FERC exemption from PURPA purchase requirements. A state such as Texas, which has different systems in different parts of the state is labeled as mixed. Bulk power markets that are dominated by utilities that operate their own systems and operate in a manner consistent with FERC Order 888 are not given any credit. However, those regions that are working toward an RTO or ISO are assigned some points.

12. Market Monitor

(2012 C&I Methodology: B.2 Market Monitor)

12	Market Structure	Market Monitor	Is the market monitoring function conducted in an independent, transparent and thorough manner?
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Options and Points

Robust market monitoring	10
Adequate market monitoring	8
Some controversy in market monitoring	6
No independent market monitor	0

Effective, independent market monitoring is essential to the proper functioning of the bulk power market. There are issues beyond the mere existence of the market monitor regarding the independence with which budgets are approved and funding is provided that may affect the ability of the monitor to be objective. Fortunately, market monitors in North America are adequate.

This attribute draws a distinction between the market monitors that are adequate and those that have demonstrated effectiveness and independence. More significantly, this attribute does not award points to those regions that have not yet developed sufficiently to create a market monitor position.

13. Demand Response Programs

(Similar to 2012 Residential Methodology: B.2 Demand Response and 2012 C&I Methodology: B.3 Reliability Demand Response; B.4 Economic Demand Response; B.5 Ancillary Services)

13	Market Structure	Demand Response Programs	Has the ISO developed a comprehensive set of demand response programs to facilitate load participation in bulk power markets?
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Options and Points

Advanced DR market (fast-acting ancillary services)	10
Robust DR (day ahead and real time; ancillary services)	8
Limited economic and reliability DR	6
Reliability/emergency DR only	4
No DR at ISO / RTO	0

Each jurisdiction receives a data entry that indicates the degree to which demand response is integrated into ISO activities. The number of points assigned to each option is set forth in the table.

Direct participation in a bulk power open opportunities for consumers of all sizes, as well as for the creativity of the REPs that serve the customers. We are aware of the system benefits of demand response: to reduce the frequency and severity of price spikes, to reduce the ability of the owners of generating units to exercise market power, and to provide entirely new resources for grid reliability and stability (e.g., loads on under-frequency relays). Full integration of demand and supply is essential for healthy and robust competition. Certain ancillary services can be provided more efficiently and at lower cost to the bulk power market, and retail consumers can enjoy a greater degree of service differentiation.

In a perfect world, all economic demand response would occur in the competitive market place without any need for administered programs. We are in a development phase, however, and the scope of centrally controlled and administered DR programs is important. Emergency DR will likely always remain an administered program, subject to the central planning functions of the system operator and reliability council.

This attribute assess the degree to which various DR programs and platforms have been created to allow customers of all sizes to participate in markets for energy, capacity and ancillary services. We examine whether there are reliability and economic markets, day-ahead and real time markets for energy, operating and responsive reserve markets for ancillary services.

Default Service

Default service relates to the design of the regulated basic, standard or “default” electric service available to retail consumers in many jurisdictions.

Fully-competitive retail electric markets have numerous REPs which offer varied products and services. There is no need for government-regulated electric service. However, the electric industry has been regulated for a century and consumers have become accustomed to regulated tariffs and limited choices. Changes in consumer behavior, and comfort with a competitive retail electric market may take time, especially when consumers are sent conflicting signals about regulated “default service” and competitive offerings.

Legislators and utility regulators in North America have decided to ensure that basic, standard or “default” service should be offered to consumers during a transition period. In many markets, the transition has become ten years or fifteen years, and some consumers have made little, if any, effort to become educated about their choices in the market place. We are left with the classic “chicken and egg” problem: which comes first, the end of regulated service? or the beginning of customer choice?

In two notable instances—retail natural gas service in Georgia and retail electricity service in much of Texas—a decision was made to directly move consumers to competitive retailers at the start of the process, but to do so with consumer protections in place. While there remain reasonable issues regarding the appropriate period of time for a market to mature, and for a transition off the regulated tariffs. However, there no longer seems to be a reasonable issues about whether it is possible to make a clean break from regulated tariffs to retail competition. It has been done successfully.

Most jurisdictions in North American have selected a long or undefined transition period, and default service persists. In these places, a competitive market may be considered successful as long as the percentage of customers receiving regulated default service grows smaller each year. That is, the larger the percent of consumers who receive services from competitive REPs, the healthier the market is likely to be. We have created a performance-related attribute to measure that effect (see: “Residential Net Switching to Competitive Service”).

In this section we make a distinction between “default service” and “provider of last resort.” Default service is available to everyone. Provider of last resort or POLR is a specialized emergency service for consumers who lose their provider. For example, if a REP goes out of business and does not make arrangement to sell and transfer the retail consumers, all the consumers are assigned to the POLR. Service from the POLR is likely to be desirable because there is great uncertainty as to when and how many consumers are to be served. For that reason, consumer who find themselves on POLR service will quickly select a new REP.

14. Residential Default Supplier

(2012 Residential Methodology: C.1 Default Service Provider)

14	Default Service	Residential Default Supplier	Who provides default service to residential consumers?
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Options and Points

No default service (limited POLR service)	10
Competitive REP	9
Affiliate of TDU	5
TDU	2
Limited or no retail choice	0

Each jurisdiction is assessed with regard to the type of company that provides default service, and its relationship to utilities and other companies. Some jurisdictions require default service to be provided by the TDU, while others rely on an entity other than the TDU. The use of non-utility or non-affiliated entity to provide default service is likely to give greater confidence to new REPs about whether they will be treated fairly. Default service may be assigned to a competitive affiliate of the utility (as in Texas), or a competitive bidding process may be held to select the default service provider.

15. Medium C&I Default Supplier

(2012 C&I Methodology: C.3 Default Service Provider Medium C&I)

15	Default Service	Medium C&I Default Supplier	Who provides default service to medium C&I consumers?
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Options and Points

No default service (limited POLR service)	10
Competitive REP	9
Affiliate of TDU	5
TDU	2
Limited or no retail choice	0

See: Residential Default Supplier.

16. Large C&I Default Service

(2012 C&I Methodology: C.1 Default Service for Large C&I)

16	Default Service	Large C&I Default Service	Is default service offered to large C&I loads, but only below a certain size limit?
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Options and Points

No default service (limited POLR service)	10
Default service offered below 200 kW	8
Default service offered below 500 kW	6
Default service offered below 1000 kW	4
Default service for all but a few large consumers	2
Default service available to all large C&I	0
Limited or no retail choice	0

See: Residential Default Supplier. Some jurisdictions have determined that larger consumers are fully capable of navigating the competitive market and that default service is not necessary for them to be served. A few jurisdictions are lowering the eligibility limits over time, reducing the upper limit for which default service is available.

17. Residential Default Service Product Options

(2012 Residential Methodology: C.2 Default Service Product Options)

17	Default Service	Residential Default Service Product Options	Is residential default service a substitute for choices in the competitive market?
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Options and Points

No default service (limited POLR service)	10
Default service is one plain vanilla offering	8
Default service mimics several historical tariff offerings	4
Default service includes a range of offers and competes with the market	0
Limited or no retail choice	0

Default service that is simple and basic is rewarded with more points. Simple or basic services that do not mimic or compete with the competitive market are preferred if the jurisdiction is interested in the success of the competitive market. The existence of default service is an impediment to competition because residential customers may stay with default service due to inertia, uncertainty or because it is meeting all their needs. If a jurisdiction wants regulated service to meet consumer needs, it does not need to attempt to create a competitive market. Greater differentiation and complexity in default service will infringe upon the creativity and innovation of pricing options and services that competitive retailers would provide in a competitive market.

Each jurisdiction is assessed as to whether default service is designed as basic service, or whether the jurisdiction has determined that default service ought to mimic the differentiated services that the regulated market used to provide in the past, or that a fully competitive market may provide in the future. The number of points assigned to each option is set forth in the table.

18. Medium C&I Default Service Product Options

(2012 C&I Methodology: C.5 Default Service Product Options Medium C&I)

18	Default Service	Medium C&I Default Service Product Options	Is medium C&I default service a substitute for choices in the competitive market?
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Options and Points

No default service (limited POLR service)	10
Default service is one plain vanilla offering	8
Default service mimics several historical tariff offerings	4
Default service includes a range of offers and competes with the market	0
Limited or no retail choice	0

See: Residential Default Service Product Options.

19. Residential Default Price Adjustment

(2012 Residential Methodology: C.3 Default Service Rate Mechanism)

19	Default Service	Residential Default Price Adjustment	How frequently is the default service price adjusted to the market price?
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Options and Points

No default service (limited POLR service)	10
Aligned to market hourly	9
Aligned to market monthly	8
Aligned to market quarterly	6
Aligned to market every six months	4
Aligned to market annually	2
Aligned to market every few years	0
Frozen or regulated cost-of-service rates	0

Each jurisdiction receives a data entry that reflects the manner in which default service prices are aligned to the cost of power in the wholesale market. The greater frequency of adjustment means that retail customers who take default service are exposed to wholesale market prices to a greater degree. That is, default service that is designed to track the cost of power in the wholesale market is considered

an effective way to provide basic service without added services, especially risk management services. Default service provides a substitute to competitive offers, and averaging the costs over time provides a price risk management service that competitive retailers are able to provide. Rates that are frozen or set below cost may prevent retail competition from taking hold by moving cost recovery to future time periods and by using regulatory powers, not market mechanisms, to recover costs.

20. Medium C&I Default Price Adjustment

2012 C&I Methodology: C.4 Default Service Cost Tracking Medium C&I

20	Default Service	Medium C&I Default Price Adjustment	How frequently is the default service price adjusted to the market price?
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Options and Points

No default service (limited POLR service)	10
Aligned to market hourly	9
Aligned to market monthly	8
Aligned to market quarterly	6
Aligned to market every six months	4
Aligned to market annually	2
Aligned to market every few years	0
Frozen or regulated cost-of-service rates	0

See: Residential Default Price Adjustment.

21. Large C&I Default Price Adjustment

2012 C&I Methodology: C.2 Default Service Cost Tracking Large C&I

21	Default Service	Large C&I Default Price Adjustment	How frequently is the default service price adjusted to the market price?
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Options and Points

No default service (limited POLR service)	10
Aligned to market hourly	9
Aligned to market monthly	8
Aligned to market quarterly	6
Aligned to market every six months	4
Aligned to market annually	2
Aligned to market every few years	0
Frozen or regulated cost-of-service rates	0

See: Residential Default Price Adjustment.

22. Residential Default Resource Portfolio

(2012 C&I Methodology: C.4 Default Service Resource Portfolio)

22	Default Service	Residential Default Resource Portfolio	Does the default service provider hedge the resource portfolio?
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Options and Points

No default service (limited POLR service)	10
Provider matches price adjustment	7
Provider hedges (multi-year)	3
Mix of hedged purchases and own resources	1
TDU relies on its own resources	0

Each jurisdiction is assessed with regard to the degree to which the default provider hedges a portfolio to serve default service customers. Default service that tracks the term of the service contract (monthly or shorter) with the term of power contracts in wholesale markets is awarded more points. Hedging provides risk management services that competitive REPs can provide. Consumers will find a variety of hedging services through the market that are not available in a regulated default rate, and any hedged, regulated product serves as a barrier to the development of new services.

23. Medium C&I Default Resource Portfolio

(2012 C&I Methodology: C.7 Default Service Resource Hedging Medium C&I)

23	Default Service	Medium C&I Default Resource Portfolio	Does the default service provider hedge the resource portfolio?
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Options and Points

No default service (limited POLR service)	10
Provider matches price adjustment	7
Provider hedges (multi-year)	3
Mix of hedged purchases and own resources	1
TDU relies on its own resources	0

See: Residential Default Resource Portfolio.

24. Residential Default Cost Allocation

(2012 Residential Methodology: C.6 Residential Default Service Cost Allocation)

24	Default Service	Residential Default Cost Allocation	Does the default service rate reflect the cost of service?
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Options and Points

No default service (limited POLR service)	10
Includes "gross margin" and "competitive elements" (bad debt)	9
Includes "gross margin"	7
Includes "competitive elements" (bad debt)	5
Power costs only	3
Capped rate (not cost of service)	0
Regulated cost-of-service rates	0

Each jurisdiction is assessed regarding the degree to which default service is priced at full retail cost so that residential customers can compare services and prices in a fair environment. Default service that is designed to fully reflect wholesale power costs, and include the full retail costs incurred in competitive markets (e.g., bad debt, marketing, administration, etc.) is considered more likely to result in a competitive market. Rates that are capped below the cost of service are detrimental to retail competition. Rates that are frozen or set below cost may prevent retail competition from taking hold by moving cost recovery to future time periods and using regulatory powers, not market mechanisms, to recover costs.

25. Medium C&I Default Cost Allocation

(2012 C&I Methodology: C.6 Default Service Cost Allocation Medium C&I)

25	Default Service	Medium C&I Default Cost Allocation	Does the default service rate reflect the cost of service?
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Options and Points

No default service (limited POLR service)	10
Includes "gross margin" and "competitive elements" (bad debt)	9
Includes "gross margin"	7
Includes "competitive elements" (bad debt)	5
Power costs only	3
Capped rate (not cost of service)	0
Regulated cost-of-service rates	0

See: Residential Default Cost Allocation.

Transactions

Transactions relate to the day-to-day interactions that market participants, consumers and utilities perform each day to buy and sell electricity. First we consider the switching transaction from the retail consumer perspective. (Is switching restricted? How quickly does switching occur?) Then we turn to the REP perspective to examine billing and the treatment of bad debt. (Can the REP bill the consumer or is the utility still involved? Who bears the responsibility for collections and is the cost of bad debt socialized?) Next we look at the manner in which information is exchanged among the parties. Finally we look at REP access to basic customer data and customer usage data. Rule matter, and rules that increase costs and limit creativity will stifle a competitive retail market.

26. Residential Default Switching Restrictions

(2012 Residential Methodology: C.5 Default Service Switching Options)

26	Transactions	Residential Default Switching Restrictions	Are consumers restricted in any way from switching from default service to a competitive supplier?
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Options and Points

Open exit, no fees, next billing cycle	10
Monthly exit, no fees	8
Monthly exit, fees apply	6
Annual exit, no fees	4
Annual exit, fees apply	2
Periodic, administered, multi-year window	1
Cap on switching or other restrictions	0

Each jurisdiction receives a data entry that reflects the degree to which switching away from the default provider is restricted. The number of points assigned to each option is set forth in the table. Jurisdictions that allow customers to switch at any time without penalty or fee receive are encouraging behaviors consistent with a market. Free movement of consumers will allow them to learn about new services and to contract for the terms and conditions that are preferred. Restrictions on the switching away from default service should be avoided.

27. Medium C&I Default Switching Restrictions

(2012 C&I Methodology: C.8 Default Service Switching Options)

27	Transactions	Medium C&I Default Switching Restrictions	Are consumers restricted in any way from switching from default service to a competitive supplier?
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Options and Points

Open exit, no fees, next billing cycle	10
Monthly exit, no fees	8
Monthly exit, fees apply	6
Annual exit, no fees	4
Annual exit, fees apply	2
Periodic, administered, multi-year window	1
Cap on switching or other restrictions	0

See: Residential Default Switching Restrictions.

28. Residential Switching Period

(This is a new metric.)

28	Transactions	Residential Switching Period	What is the minimum number of days necessary to switch a residential consumer to a new provider?
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Options and Points

One day	10
Two days	8
Fewer than five business days	6
Start of next regular meter read	3
Cap on switching or other restrictions	0

Acquiring a new customer, and receiving revenue as soon as possible is important to retail energy providers. New entrants must address cash flow issues in order to survive. Also important is the speed of switching to the consumer. Not only would the consumer receive the preferred service, but there is a stronger sense of the appropriate functioning of a market place if the results of a transaction are close in time to the decision.

It was recommended by the ABACCUS Advisory Board in 2013 that we add a metric to assess the minimum residential switching period. An ability to switch a consumer rapidly reflects a willingness to create and support a system that works to the advantage of the market makers – the consumers and the retail energy providers who serve them. Delays – whether intentional or due to bureaucracy – serve the interests of those who are satisfied with choices made a long time ago.

29. Residential Billing

(Similar to 2012 Residential Methodology: D.7 Billing Protocols)

29	Transactions	Residential Billing	Who bills the residential customer?
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Options and Points

REP must bill	10
REP has the option to bill or use TDU	8
REP has the option to bill separately from TDU	4
Both REP and TDU must bill separately	2
TDU must do the billing	0

When billing is done competitively, the retail customer relationship must be managed by the retail energy provider. No one knows what new business models will arise, but it is generally agreed that flexibility will allow and encourage experimentation.

In the jurisdictions where energy is treated as a commodity, the utility maintains the primary role as billing agent, and the electric commodity appears as a line item on electric utility bill. There is no opportunity for the competitive provider to use the billing transaction as a means to lower costs, communicate and engage with customers or provide new energy services. If only the commodity portion of the bill is competitive, then other services and charges – for metering service, distribution service, and certain value-added services – will remain regulated and they may stagnate.

This attribute scores the options with respect to the development of a competitive market. In past ABACCUS reports, we was stated that, “There is no consensus on whether utility billing or retailer billing is an essential component of retail electricity choice.” In this report, we break with that sentiment, and distinguish between “utility consolidated billing” (UCB) – a system that allows the utility to continue to bill customers on behalf of retail suppliers – and a billing approach in which retail energy providers take the lead. UCB allows small retail providers to enter the market without investing in billing systems, which is useful, but the advantage of requiring retail provider to acquire competitive billing is that they can establish a close relationship with the consumer and drive down the cost of billing and collections.

30. Treatment of Bad Debt

(Similar to 2012 Residential Methodology: D.7 Billing Protocols)

30	Transactions	Treatment of Bad Debt	Who is responsible for bad debt?
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Options and Points

REP handles all receivables and TDU payment	10
Purchase of receivables program	8
Regulatory inquiry into purchase of receivables	5
Some unequal treatment of REPs	2
Default provider receives preference	0

Responsibility for bad debt has social implications and is intertwined with consumer protections and the rules regarding disconnection and reconnection. In a world of “purchase of receivables” (POR), the risk of non-payment is pooled and shared among all market participants in proportion to sales. This is popular in some jurisdictions to overcome past inequities.

Without POR, each retail supplier is at risk for bad debt, including the collection of both the commodity cost and delivery charges. In a competitive world, this would be normal. In the regulated utility world, past practices and rules may provide undue advantage to one party or another. Unequal treatment is unfair. In the most egregious cases, a portion of a payment is first applied to the delivery portion of the bill, and the greater portion of the debt is applied to the commodity portion of the bill.

31. Standard Electronic Data Exchange

(2012 Residential Methodology: D.6 Transaction Standards and 2012 C&I Methodology: D.7 Transaction Standards)

31	Transactions	Standard Electronic Data Exchange	Does the jurisdiction require the use of a standard electronic data exchange (EDI) for business transactions?
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Options and Points

Standard EDI set for retail transactions	10
Standard customer information set for retail transactions	5
Utility-by-utility transaction processing	0

The degree of standardization for electronic data interchange in the jurisdiction is very important to the conduct of efficient transactions. A standard electronic data interchange (EDI) greatly reduces transactions costs. With large consumers, the faxing or manual entry of data (this was common in the early days of retail electricity competition) is a small cost relative to the size of the customer. However, in the residential consumer market, frequent, repetitive transactions would be very costly if handled manually. Likewise, a non-standard, utility-by-utility approach increases the cost of each transaction and reduces the viability of retail electricity choice.

32. Uniformity of Standards

(2012 Residential Methodology: D.5 Uniformity of Standards and 2012 C&I Methodology: D.6 Uniformity of Standards)

32	Transactions	Uniformity of Standards	Does the jurisdiction apply uniform standards for the operation of competitive retail markets?
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Options and Points

Adoption of North American Energy Standards Board consensus standards for retail electricity	10
Adoption of comprehensive and uniform jurisdictional standards	5
Standards vary by distribution utility	0

The degree to which each jurisdiction has adopted a standard approach for conducting retail business in its jurisdiction must be assessed. Jurisdictions that allow each electric distribution utility to maintain separate, unique standards or approaches for conducting business are unnecessarily imposing costs on competitive energy providers that operate across the entire jurisdiction, requiring that they adapt to different standards for different utilities. Jurisdictions must work toward uniform business standards with a goal of creating and adopting standards for North America.

33. Administration of Switching

(2012 C&I Methodology: D.5 Administration of Switching)

33	Transactions	Administration of Switching	Does a central, fully-independent organization handle all customer switching requests?
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Options and Points

Administered by one independent entity	10
Primarily administered by one independent entity	5
Administered by TDUs	0

As with standardization for electronic data interchange or the application of uniform standards for the operation of competitive retail markets, the use of a central, fully-independent organization to handle all customer switching requests is likely to reduce costs for all parties.

34. Access to Residential Customer Information

(2012 Residential Methodology: D.4 Access to Residential Customer Information)

34	Transactions	Access to Residential Customer Information	Do qualified retailers have easy access to basic customer information?
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Options and Points

Standardized, comprehensive information provided to qualified REPs	10
Customers can opt out information sharing	8
Customers must opt into information sharing	5
Affirmative customer approval required (e.g., at trade shows)	4
Limited information provided to qualified REPs	2
No customer information dissemination	0

Greater access to basic customer information will reduce transaction costs for retail energy providers and facilitate greater retail electricity choice. Policies that restrict access to customer data may impose costs on certain market participants will allowing others to maintain an advantage. Each jurisdiction is

assessed with regard to the ease with which basic customer information – address, monthly usage, etc. – is made available to qualified retailers. Customer privacy and protection is a given, and each jurisdiction must balance access to sensitive customer data with a desire to make these basic data available on a consistent basis to all retail energy providers.

35. Access to Customer Usage Data

(2012 Residential Methodology: D.8 Access to Electricity Usage Data)

35	Transactions	Access to Customer Usage Data	Do retailers have timely access to detailed electricity usage data?
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Options and Points

REP same day access to detailed customer usage data	10
REP next day access to detailed customer usage data	7
REP month's end to detailed customer usage data (e.g., traditional interval data recorders)	3
Little to no usage data are available	0

Direct, real-time access to customer usage data is valuable. An enhanced ability to measure and manage customer data in real time may allow retail energy providers to provide enhanced services. There are new techniques emerging to manage customer loads, manage price risk, and affect the energy providers' resource portfolio and cost structure. Do retail energy providers have immediate (same day) access to metered usage data, or it is available the next day or at the end of the month? This attribute related to residential and small commercial consumers. For the purposes of this attribute, we can disregard very large customers who have advanced meters and detailed interval data on their premises.

36. Electricity Usage Data Security and Customer Privacy

(2012 Residential Methodology: D.10 Electricity Usage Data Security and Customer Privacy and 2012 C&I Methodology: D.9 Electricity Usage Data Security and Customer Privacy)

36	Transactions	Electricity Usage Data Security and Customer Privacy	Has the jurisdiction established clear policy and practice regarding the security of customer usage data, customer data privacy, and the appropriate uses of customer usage data?
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Options and Points

Five of five policies	10
Four of five policies	8
Three of five policies	6
Pending rulemaking proceeding	5
Two of five policies	4
One of five policies	2
No clear policies	0

In order to have a competitive retail electricity market, the ownership and protection of consumer usage data must be defined, and cyber security standards ought to be in place. There is a diversity of approaches in the states to with respect to data access, and this is a problem which can be addressed through open standards and protocols. Appropriate public policy balanced the efficiency of data access to retailers with longer-term benefits that address consumer needs, cyber security and abuses by certain retailers.

Each jurisdiction is scored with respect to five issues and whether they are clearly defined in the jurisdiction’s rules and practice to balance consumer protection with ease of access to data by appropriate market participants. The jurisdiction must define: 1) data ownership, 2) responsibility for handling data to protect consumer privacy, 3) cyber security, 4) open standards and protocols that comply with nationally recognized non-proprietary standards, and 5) the communication of meters with customer-owned devices (such as those inside a building for usage monitoring, load control, prepayment, etc.). Regarding standards and protocols, we need “bank industry consistency” so that retailers can work across the continent just as ATM cards work in most locations. Jurisdictions with a pending rulemaking proceeding on these topics are also recognized.

Facilitation

Facilitation relates to policies and rules that encourage or frustrate retail energy providers as they interact with retail consumers and the T&D utilities.

37. Jurisdiction Commitment to Electric Competition

(This is a new metric.)

37	Facilitation	Jurisdiction Commitment to Electric Competition	Is the jurisdiction committed to implementation of a competitive market?
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Options and Points

Irrevocably committed	10
Highly committed	8
Committed	6
Somewhat committed	3
Not at all committed	0

“Commitment to reform” assesses such things as the creation and staffing of a dedicated office of retail competition within an appropriate government agency, any efforts to solicit input from market participants and act upon that input, and the creation of rulemaking or other proceedings to reform the rules and requirements for the retail electricity market.

Different states are organized differently, with different agencies focused on the electricity issues. Therefore, this attribute represents a qualitative assessment of many activities such as the number of full time equivalents and budgets; the jurisdiction’s commitment to customer education; the timing and

success of rulemaking proceedings; recent and anticipated changes in rules; etc. The listed options are assigned based on judgment and the collection of these measures.

38. Consumer Access to Price Comparisons

(2012 Residential Methodology: D.11 Consumer Access to Price Comparisons)

38	Facilitation	Consumer Access to Price Comparisons	Does the jurisdiction maintain a website for residential consumers with: a) up-to-date prices and offers from all REPs, b) price and attribute comparison functionality, and c) links to REP terms and conditions and to the REP website.
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Options and Points

No need for a government website	10
An exceptional website	10
Highly functional website	8
Adequate website	5
Good information without website	3
No website and/or confusing messaging	0

The ease with which consumers can gain access to, and compare, electricity prices is assessed. When retail electricity choice began in the 1990s in North America, no one anticipated that a government-sponsored website with transparent price information would be valuable for the development of retail competition. Internet access has dramatically expanded and Web-based price comparisons are now commonplace for many products and services, including electricity.

During the transition to competition, a government-maintained website facilitates the comparison of offers on the basis of their price and other attributes of service (percent green power, length of term for fixed-price contracts, etc.). Some of the healthiest electric markets occur where there is a government-sponsored website. Government can provide confidence in the market, customer education, and price transparency by sponsoring a website.

In most normal competitive markets, there is no need for government-sponsored price-comparison websites. It is anticipated that there will come a time when consumer will have easy access to many useful sources of information, and no government website is required or even advised. As that become apparent, the scoring of this attribute will be adjusted.

39. Advanced Metering Infrastructure

(2012 Residential Methodology: D.9 Advanced Metering Infrastructure)

39	Facilitation	Advanced Metering Infrastructure	To what level has the jurisdiction deployed advanced metering infrastructure?
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Options and Points

More than 95%	10
More than 85%	9
More than 75%	8
More than 65%	7
More than 55%	6
More than 45%	5
More than 35%	4
More than 25%	3
More than 15%	2
More than 5%	1
Less than 5%	0

Advanced metering infrastructure is an important investment in the electric network as utilities incorporate more intelligence into the wires, enable smart grid functions, and create a platform for consumer engagement. AMI enables time-based pricing (time-of-use, critical peak, real-time), demand response programs, prepaid energy service and many other advanced services. Advanced meters are defined as meters that are capable of measuring and storing as least *hourly* (or more frequent/shorter periods) consumption data and communicating these data at least once every *24 hours* (or more frequently).

The penetration of AMI to residential electricity customers treated as a proxy for investments in smart grid that can help the emergence of innovative products and services. The data are based on the FERC biennial survey of advanced meter market penetration issued in December 2012.

40. On-site Generation Alternatives

(2012 C&I Methodology: D.8 On-site Generation Alternatives)

40	Facilitation	On-site Generation Alternatives	Do C&I customers have interconnection and distribution system access that facilitates the use of DG as an alternative?
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Options and Points

All three criteria satisfied	10
Two of three criteria	7
One of three criteria	4
No criteria	0

The examination of on-site generation alternatives considers three important dimensions: 1) the interconnection of distributed generation and related fees and practices; 2) policies regarding incentives, all-source solicitation in integrated resource planning, net metering, and resource portfolio standards, to ensure that distributed generation is considered in planning and treated fairly in administrated planning proceedings; and 3) the ability of retail consumers to access bulk power markets through the distribution system to ensure that consumers can buy and sell in a manner that provides flexibility with regard to on-site design and energy management.

In general, most jurisdictions have addressed the interconnection of distributed generation, and the associated fees, review procedures and related business practices of the TDU to ensure that DG is treated fairly. With regard to criterion number two, many jurisdictions have in place administrative mechanisms to assist customers with DG to get standby power, sell excess power to the grid, participate (through aggregation) in all-source bidding schemes and to be considered fairly in long-term planning. The final set of criteria is more advanced and relates to the ability to conduct transactions over the distribution system, much in the way that bulk power transactions are conducted on the transmission grid.

Performance

Performance relates to market outcomes. Among the desirable outcomes are numerous products and services, offerings that include a range of different types of products, numerous retail energy providers, and high levels of switching from one provider to another. Each year, the ABACCUS report takes a snapshot of the states and provinces (using the most up-to-date information as of September), to consider the year-to-year changes.

41. Number of REPs Making Residential Offers

(2012 Residential Methodology: A.2 Number of Retailers Making Offers to Residential Customers)

41	Performance	Number of REPs Making Residential Offers	How many REPs are making offers to residential customers?
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Options and Points

20 and greater is considered superior (10 points). Below that level, a portion is awarded.	10
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A large number of retail energy providers making offers to residential customers is an indication of robust competition. A small number may indicate a problem with the market including barriers to entry, high costs of entry or high levels of business risk. It is acknowledged that counting “active retail energy providers” is merely a proxy for what could be a detailed analysis of participation in the market. A detailed analysis would require the definition of the appropriate market, a calculation of market concentration and an examination of entry barriers.

Beginning in 2012, “20 and greater” was defined as the standard for a fully competitive retail electricity market. This is a guideline that results in an explicit allocation of points.

42. Number of REPs Making Medium C&I Offers

(2012 C&I Methodology: A.3 Number of Retailers Making Medium C&I Offers)

42	Performance	Number of REPs Making Medium C&I Offers	How many REPs are making offers to medium C&I customers?
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Options and Points

20 and greater is considered superior (10 points). Below that level, a portion is awarded.	10
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See: Number of REPs Making Residential Offers

Beginning in 2012, “20 and greater” was defined as the standard for a fully competitive retail electricity market. This is a guideline that results in an explicit allocation of points.

43. Number of REPs Making Large C&I Offers

(2012 C&I Methodology: A.2 Number of Retailers Making Large C&I Offers)

43	Performance	Number of REPs Making Large C&I Offers	How many REPs are making offers to large C&I customers?
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Options and Points

20 and greater is considered superior (10 points). Below that level, a portion is awarded.	10
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See: Number of REPs Making Residential Offers

Beginning in 2012, “20 and greater” was defined as the standard for a fully competitive retail electricity market. This is a guideline that results in an explicit allocation of points.

44. Number Residential Offers

(2012 Residential Methodology: A.6 Number of Distinct Offers)

44	Performance	Number Residential Offers	How many distinct offers are available from REPs to residential customers?
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Options and Points

50 and greater is considered superior (10 points). Below that level, a portion is awarded.	10
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A large number of distinct offers to residential consumers indicates healthy competition. This includes the number of distinct pricing offers or contracts available from various energy retailers for month-to-month power, fixed rates of various terms, green power, indexed prices, prepaid service, special services

and rebate offers, etc. Only competitive (unregulated) offers are counted; that is, default service is not counted as a competitive service option. A very small number of offers indicates an immature market and may indicate barriers to entry and a lack of infrastructure or pricing signals to allow the market to grow and diversify. It is acknowledged that this method is merely a proxy for determining the level of innovation, the degree of market differentiation and the level of market maturity.

Beginning in 2012, “50 and greater” was defined as the standard for a fully competitive retail electricity market. This is a guideline that results in an explicit allocation of points.

45. Types of Residential Offers

(2012 Residential Methodology: A.7 Categories of Products)

45	Performance	Types of Residential Offers	How many different product and service types do REPs offer to residential customers?
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Options and Points

15 and greater is considered superior (10 points). Below that level, a portion is awarded.	10
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A variety of diverse products and services from which residential consumers can choose is an indicator of healthy competition and a maturing market. While no one knows which products and services will be popular or successful in the future, a variety of services and products offered today ensures that consumers and retail energy providers will be experimenting, learning, refining and adapting. This process will result in a better understanding of consumer preferences and value, and the cost of delivering what people want. This attribute serves as a proxy for measuring innovation. From 2010-2012, ABACCUS measured a few, simple categories such as stable pricing and green pricing, but markets have evolved, and this attribute looks more closely at what is available today. The number of types has been dramatically increased.

In this attribute, we are assessing the variety and types of services offered by REPs, and we do not include services offered by the regulated utility or default service provider. We also do not include the fully-competitive services that have been offered directly to residential customers for a long time. Over time, however, these may be integrated into the competitive REP offers.

For now, the availability of REP offers are assessed that fall into following categories or types of service: 1) greenness (100% renewable resource products), 2) price stability (price guarantees; flat rates; multi-year contracts), 3) price flexibility (wholesale market price flow-through), 4) energy management (analytics; expert advice; in-home technologies; data-rich communications), 5) bill pay choices and budgeting (budget alerts; budget billing; flexible payment; repayment plans), 6) prepaid energy, 7) time of use (weekends; days; nights; traditional TOU), 8) affinity marketing (local causes), 9) discounts (cash back; debit cards), 10) appliance maintenance (HVAC tune up), 11) high-touch service (personal interactions and premium customer services), 12) on-site generation services (standby and buyback rates; access to bulk power markets), 13) load control services (demand response; access to bulk power markets; load monitoring and measurement), 14) energy efficiency services (incentives and information for energy efficiency investments) and 15) on-site financing (loans; project financing).

Beginning in 2013, “15 and greater” was defined as the standard for a retail electricity market exhibiting a diversity of new products and services. If all of these 15 types of service are offered by one or more REPs, then the state receives the maximum point total.

46. Residential Net Switching to Competitive Service

(2012 Residential Methodology: A.3 Residential Customers Receiving Competitive Rate)

46	Performance	Residential Net Switching to Competitive Service	What percentage of eligible residential customers receive service on a competitive product?
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Options and Points

100% is considered superior and receives 10 points. Below that, a portion is awarded.	10
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Net switching is a frequently-relied-upon measure of market performance. If a greater portion of consumers has switched to a competitive rate – as compared to a regulated rate – it is assumed that there is robust competition and more successful restructuring. Under retail electricity choice, a residential customer could switch to a competitive provider, could be assigned to a competitive provider, could make a transition to a competition rate when default service has ended, or could be part of a scheme to aggregate customers at the municipal level to be served by someone new.

This attribute does not differentiate between these paths to the competitive service. The focus is on whether the consumers receive competitive service or regulated service. “Regulated service” refers to terms and prices established by, or approved through, a regulatory or administrative process. It is fair to think of regulated service as default service, which tends to be closely regulated and administered.

This attribute takes a snapshot of the percent of eligible customers on competitive service without regard to how they got there, how long they have been there or whether they switch back and forth. The total number of residential customers who receive competitive service is divided by the total number of eligible residential customers in the jurisdiction.

47. Annual Switching Percentage

(This is a new metric.)

47	Performance	Annual Switching Percentage	What percentage of eligible residential customers changed service providers during the past 12 months?
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Options and Points

15% is considered superior and 15%+ receives 10 points. Below that, a portion is awarded.	10
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Different jurisdictions maintain different types of switching statistics. Companies that monitor retail electricity competition worldwide tend to examine the frequency of customer switching, to and from default service, and from one retail provider to another. This annual switching percentage or “churn”

counts each consumer switch within a year, and then calculated the number of switches divided by the total number of consumers. In other words, if 5% of all residential consumers each switched two times within a year, the annual switching percentage would be 10%. It would not matter whether they switched away from default service, or from one competitive provider to another.

Note: These data are not yet available in North America, and no weight is assigned to this metric. As soon as comparable data are obtain for a majority of jurisdictions, this metric will be added to teh scoring by assigning a weight.

48. Medium C&I Net Switching to Competitive Service

(2012 C&I Methodology: A.5 Medium C&I Customer Load Switching)

48	Performance	Medium C&I Net Switching to Competitive Service	What percentage of eligible medium C&I customers receive service on a competitive product?
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Options and Points

Points are awarded in proportion to the percentage who have switched.	10
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See: Residential Net Switching to Competitive Service.

49. Large C&I Net Switching to Competitive Service

(2012 C&I Methodology: A.4 Large C&I Customer Load Switching)

49	Performance	Large C&I Net Switching to Competitive Service	What percentage of eligible large C&I customers receive service on a competitive product?
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Options and Points

Points are awarded in proportion to the percentage who have switched.	10
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See: Residential Net Switching to Competitive Service.