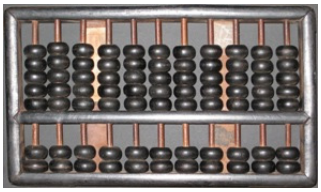
Annual Baseline Assessment of Choice in Canada and the United States



ABACCUS: An Assessment of Restructured Electricity Markets

A project of the
Energy Retailer Research Consortium
December 2009

Energy Retailer Research Consortium

The ABACCUS report is sponsored by the Energy Retailer Research Consortium (ERRC), an independent research consortium comprised of companies with a stake in competitive retail energy markets. ERRC conducts studies on retail energy market structure and performance and value-added energy services.
http://www.defgllc.com/content/defg/errc.asp

Contact

Nat Treadway, Managing Partner and ERRC Projects Manager
Distributed Energy Financial Group LLC
ntreadway@defgllc.com; 713-729-6244
http://www.defgllc.com

Acknowledgments

The Energy Retailer Research Consortium is grateful to the ABACCUS Advisory Board for its leadership throughout the study period. ERRC would like to acknowledge the contributions of the numerous regulatory commission staff members who participated in telephone interviews. Errors are the responsibility of the ERRC Projects Manager.

Table of Contents

Executive Summary **1**

Introduction **5**

Commercial & Industrial ABACCUS Findings **8**

Residential ABACCUS Findings **13**

Progress in the States and Provinces **16**

Issues **20**

Recommendations **24**

Volume I Appendices **28**

Appendix A – Sponsors 28
Appendix B – ABACCUS Goals and Process 29
Appendix C – Electric Restructuring Terminology 30
Appendix D – Summary of ABACCUS Methodology 31

Volume II Appendices **39**

Appendix E – Restructuring in the US States and Canadian Provinces 39
Appendix F – Residential ABACCUS Methodology (detail) 39
Appendix G – Commercial and Industrial ABACCUS Methodology (detail) 39

Executive Summary

The states and provinces of the United States and Canada continue to demonstrate that restructured retail electricity markets provide significant benefits to consumers. Against the backdrop of a slower economy, energy prices have gone down—helping provide customer relief. Competitive retailers, unhampered by administrative processes and with market pressures to motivate them, have quickly reflected these price benefits in their offerings. States are fostering retail choice and both residential and non-residential consumers continue to switch from the regulated default service rate to a wide variety of competitive pricing contracts which match their individual needs with respect to cost, risk, and other factors important to the customer.

This report presents a summary of the current status of residential and commercial and industrial retail choice programs in North America, contrasts policy choices made by the states and provinces, and highlights best practices in market design to improve future market participation.

More than a decade has passed since the initial US states launched pilot programs to offer retail choice of power supplier to consumers. While the participation of large energy consumers has been good and widely lauded as a success, perceptions of mass market participation have been mixed. Some observers are very critical of the ability of residential consumers to benefit from retail choice in some areas, citing increases in average prices and low retailer market entry. To some degree, these are self-fulfilling prophesies.

States with historically higher and more volatile energy prices were more likely to reject the regulatory scheme and embrace the use of market forces to control costs. As part of restructuring, states adopted policies that encouraged market development in renewable resources, and investments in wind turbines consequently increased dramatically. New investments in efficient fossil fuel generating units have grown as well with competitive markets, and additional investments in generation technologies that have lower fuel price volatility are expected in the future (e.g., nuclear power, renewable resources, highly-efficient combined heat and power, etc.) As important as the long-term resource investment signals are the near-term policy choices that affect retailer market entry. A poorly designed market will not attract retail entrants – nor will a market where regulatory stability is suspect. A lack of interest in a market by retailers is an indication of a flawed market structure or flawed application of the structure.

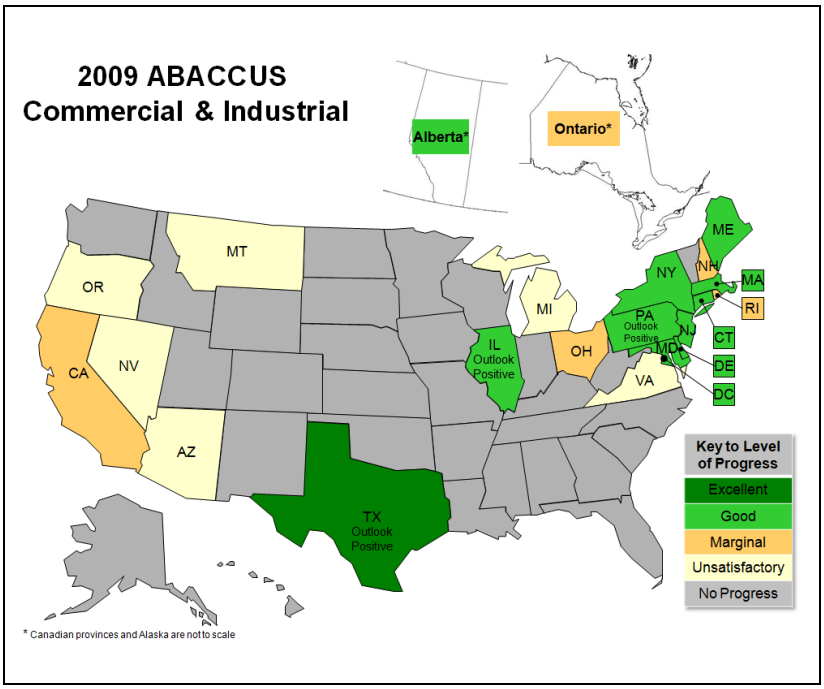
Wholesale market development must accompany retail electricity competition. Ten organized markets in the U.S. and Canada continue making advances in wholesale market development which serve retail electricity markets. Real-time operation of the bulk power market brings reliability services, efficient pricing, and mechanisms to ensure adequate transmission capacity to support market transactions and market expansion. Adequate generating capacity has been constructed because they have access to numerous market participants and consumers. Power generation facilities run efficiently in organized wholesale markets overseen by the independent system operator. Renewable energy projects are growing rapidly in restructured wholesale markets.

Commercial and Industrial Consumers

Commercial and industrial consumers in more than a dozen competitive retail electricity markets have access to numerous retail power suppliers who offer pricing 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 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 exposure to market price variability. Their choice depends on their unique industrial process, willingness to respond, and the technical feasibility of the response. Building management systems are becoming more sophisticated to facilitate more real-time decision making. Large commercial and industrial consumers are able to invest in backup generation, on-site energy storage, and end-use load control devices to participate in power markets, manage usage, and lower costs.

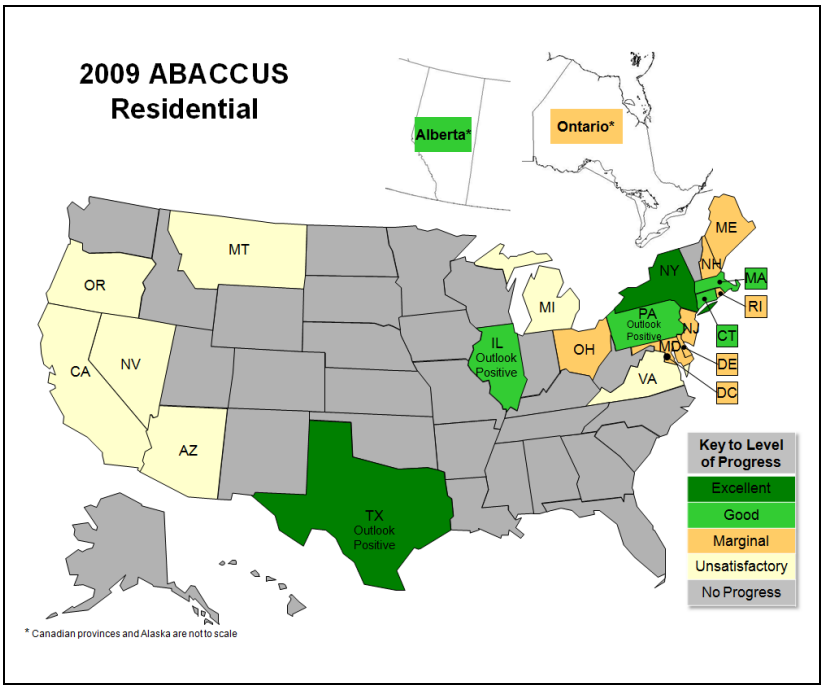
The *Annual Baseline Assessment of Choice in Canada and the US* (ABACCUS) gauges progress in the implementation of retail electricity choice. The ABACCUS is a report card on the electric industry's achievements in electric industry restructuring. ABACCUS assesses many attributes of service. In addition to quantitative analysis, ABACCUS relies on the judgment of the project sponsors to assess the level of success and outlook for the future. Twelve states have been assessed as "excellent" or "good" with respect to the implementation of commercial and industrial retail choice.



Residential Consumers

Residential consumers can also exercise choice and control over their energy usage, billing and cost in many areas of the country. 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 or hydroelectric facilities. In some states, consumers can bundle heating and cooling equipment check-up or maintenance costs into their electric bill. Other choices include enrolling in rewards and cash-back programs, energy efficiency programs, demand response, and time-of-use pricing. Additionally, as the advanced metering smart grid infrastructure continues taking off, residential markets are beginning to open up to include home area networks and control devices that will be coordinated with these smart grid investments.

Application of the ABACCUS methodology to residential markets reveals seven states assessed as "excellent" or "good" with respect to implementation of residential retail choice. Texas has achieved about 47% switching among eligible residential consumers, and virtually none of the remaining Texas consumers is on a regulated rate with the incumbent service provider (default service expired after five years in 2007). Four additional jurisdictions also have ten percent or more of residential consumers who have left the incumbent provider.



Summary and Recommendations

We are individuals. Consumer preferences differ and competitive markets are the best way to satisfy individuals' diverse needs and wants. The old "one-size-fits-all" regulatory or administered-market model does not best serve consumers or the environment. Competition is a mainstay of the global economy precisely because competitive service providers respond to consumers who shop. Choosing among products, services and suppliers is routine for consumers in North America. The introduction of choice in the electric industry is spurring innovation and efficiency, and it results in an efficient allocation of resources. A growing number of consumers consider themselves environmentalists, and the competitive marketplace is an arena where their preferences can be expressed.

One value of a side-by-side comparison of the market structures, rules and performance of various states and provinces is that we can learn from the successes of one state and diffuse those lessons more broadly.

The data and our analysis reveal some practices that appear to work well and could have wider application.

> *Recommendation #1: Allow all electricity consumers to participate in a competitive retail electricity market.*
>
> *Recommendation #2: Support the introduction of advanced wholesale market practices including market-based congestion management and markets for balancing energy, regulation and reserves.*
>
> *Recommendation #3: Support the establishment of a market platform that facilitates the participation of customer loads in demand response programs, including aggregation of small-scale loads and deployment of advanced meter infrastructure.*

Recommendation #4: 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 regulated default service to full competition.

Recommendation #5: Design a default service product that is 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 competitive market participants.

Recommendation #6: If supply procurement for default service is done through mandated auctions or competitive solicitations, the term lengths should be shortened to an appropriate level for each customer group. This will ensure that appropriate pricing signals are sent to customers to allow them to better select their electric service product and to efficiently manage their energy usage.

Recommendation #7: Establish a plan for the separation of regulated services from competitive services, and for the application of a strict code of conduct to govern interactions between the regulated utility and its competitive affiliates.

Recommendation #8: Establish standards for access to customer information, commercial practices and electronic data exchange to lower the transaction costs for market participants.

Recommendation #9: Establish a flexible approach to customer billing, provide reasonable access to customer billing data, and establish a plan for advanced metering infrastructure.

Recommendation #10: Rely on market forces to the maximum extent possible to achieve goals relating to renewable resources, energy efficiency, demand response and distributed generation.

Introduction

Comparison of prices and quality is an essential feature of a competitive market economy. We compare many attributes and qualities of the products and services we buy every day. It is interesting to note that a similar process occurs as we assess public or governmental goods and services. Likewise, ABACCUS provides a framework for comparing many attributes and qualities of the market to assess the progress of states and provinces toward achieving the goals of restructuring.

Comparisons help us make sense of our complex world. We compare product quality and prices; we consider formal assessments of public schools before we purchase a home; we review the rating of restaurants or hotels. In public goods and services, comparative analysis helps citizens understand why taxes may be lower or the police response time may be faster in one city compared to another. We may notice a change in road quality as we cross a state line. In every case – schools, restaurants, taxes, police, and roads – we demand better services at lower cost if our comparison provides evidence that there is a better way to achieve an ends. Markets function best when consumers have information about prices and quality.

Electricity markets were liberalized in the 1990s to encourage competition. It began with electric generation, and moved to competition in the provision of retail electric services. This report focuses on comparisons among the various electric industry structures in North America, particularly on how U.S. states and Canadian provinces have designed and implemented competitive retail electricity choice. Comparisons are offered at the state and provincial level in an attempt to sort out what works best, and what can potentially improve. This information is very timely as many of the states and provinces are engaged in discussions with respect to how best to provide competitive electric service in a rapidly changing energy environment.

North America has an astounding array of ownership arrangements and electric industry market structures. In addition to competitive restructured markets, state-regulated investor-owned utilities, government-owned municipal utilities, quasi-governmental power authorities, and member-owned electric cooperatives operate side-by-side. Opinions vary about which ownership patterns and structural approaches are best. The core issue for this report is how to compare the jurisdictions that offer retail choice.

Comparing alternative electric industry restructuring models is not easy. Even once the facts are gathered, there remain a variety of perspectives about how to interpret the data. In this regard, assessing the electric industry is no easier than assessing public education or health care. *Different people value things differently!* That simple statement provides one reason that market transactions are an efficient resource allocation mechanism. Markets serve this complexity well. That statement also gives insight into why there is disagreement over "what works best" in electric restructuring. There are disagreements because *different people value things differently*. Consider parallels with health care:

> *Comparing the performance of health systems is tricky. For one thing, people may attach different values to crucial features such as coverage, choice, equity and the quality of clinical care. For another, people's health reflects influences like lifestyles that have little to do with medical care. Cost must also be taken into account. The World Health Organisation attempted an evaluation in 2000, in which Britain came 18th out of 191*

countries and America 37th, but the methods used to compile the ranking were heavily criticised and it has not repeated the exercise.[1]

Just like the crucial features of health care, electric service has features that different people value differently. For example: some people want the electric commodity delivered at lowest cost, while others place a premium on the reliability of service; still others demand extremely high power quality; some want the cleanest power possible; and many want various mixtures of all of these factors—and others. Just when you think you have solved a power reliability and quality issue (e.g., keep both high), some cost-conscious consumers complain about the rate increase. Then there are those who care more about the source of generation than the average costs, and they prefer renewable resources. Still others prefer independence, and would prefer to be off-grid, or have the ability to operate off grid if there are reliability problems. All of these value-based preferences can raise costs. Average cost minimization is not everyone's first choice.

Choice in electricity mitigates such problems by offering a diverse set of options that meet people's different preferences. Rather than a one-size-fits-all approach, or a small government-mandated set of alternatives, competitive companies offer a range of alternatives and customers choose the ones that best meet their needs.

Measuring Progress in Electric Industry Restructuring

What are the goals of a fully competitive electric market? What do people value? Some observers have tried to judge success or failure by one measure such the average cost of electricity. However, for most homes and businesses, the value of electric service is properly measured in terms of the value provided by the end use devices that consume electricity. Further, there are many attributes of service – reliability, power quality, fuel source – that matter to consumers.

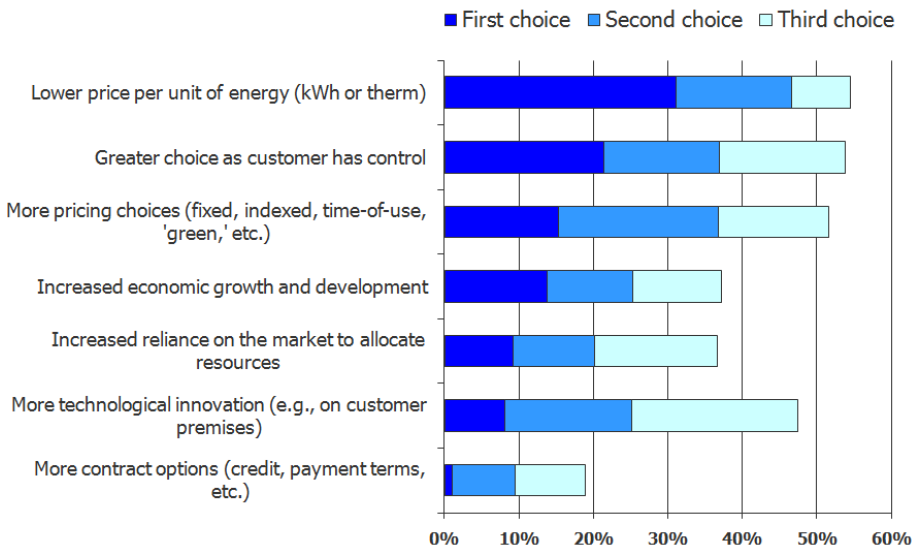
In a recent poll,[2] energy professionals were asked to select their first, second and third choices from seven options in response to the question, "What are the goals of a fully competitive retail energy market? Which outcomes are the most important?" (question 15). In addition to "lower price," large numbers of respondents ranked "greater choice as customer has control," "more pricing choices," and "more technological innovation" as important factors. Interestingly, all seven options received at least some level of support and others were even written in, including "conservation" and "demand response."

---

[1] "Healthier than Thou: How Britain's Health System Compares with America's," *The Economist* print edition, Aug 20th 2009.

[2] 2009 Electric Industry Restructuring Survey, conducted online September 2009 by Distributed Energy Financial Group, LLC. Inquiries: ntreadway@defgllc.com. There were 250 respondents to the survey.

Chart 1: 2009 Restructuring Survey (Question 15)

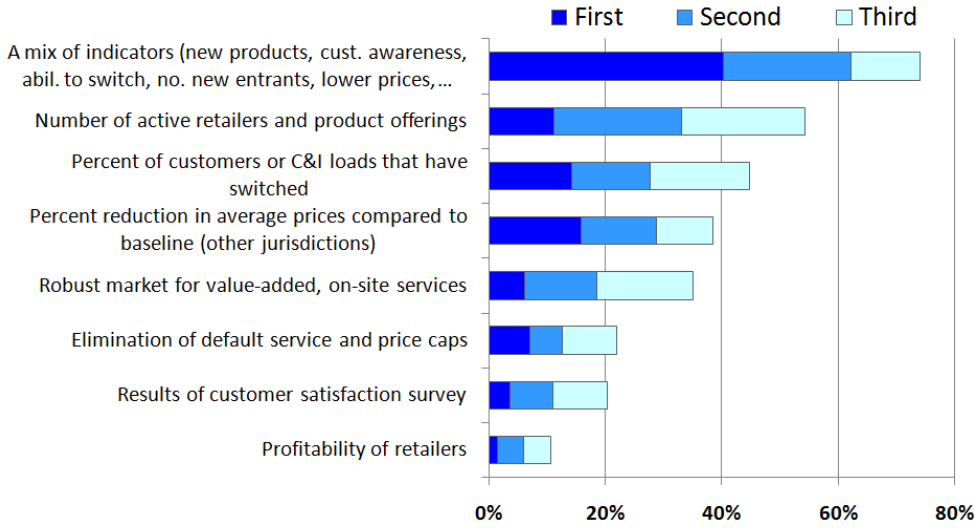


We can conclude that while lower cost of the commodity is frequently mentioned, it is not the only goal or outcome of full competition. People understand that markets deliver multiple values.

These energy professionals were also asked, "What are the three most effective ways to measure whether there is a fully competitive market?" (question 16). A majority responded that "a mix of indicators" is appropriate. Forty percent list this as their first choice (out of eight options listed). If you consider first, second and third choice, "average price," which was a distant second as first choice, dropped to fourth position overall.

These data reinforce the finding from the first chart. People understand that just as there are many goals of full competition, there are many ways to measure it. A single metric misses the point.

Chart 2: 2009 Restructuring Survey (Question 16)



These survey results support the use of many indicators, each of which relies on narrow measures of success (number of active retailers, percent switching, number of products offered, variety of new products offered, customer awareness and education, restrictions on the ability to switch, prices

compared to a baseline, elimination of price caps, and markets for value-added services), to provide an assessment of a fully competitive electricity market. Therefore, in order to give true insight into the status of competitive restructuring across various states, we need tools that can synthesize a variety of quantitative and qualitative indicators. ABACCUS is such a tool.

Report Outline

The introduction describes the central role that comparisons have in our market economy. We describe how we measure progress in meeting the goals of restructuring. Next, the findings present the ABACCUS results. We discuss the progress in states and provinces with respect to retail choice implementation. We highlight some policies and actions that frustrate the development of a competitive retail electricity market. We then present the ABACCUS report recommendations.

Appendices of the ABACCUS report are divided into two volumes. Volume I contains four appendices. Appendix A lists the report sponsors and Appendix B provides a brief summary of the ABACCUS goals and process. Appendix C lists specialized terminology used in each jurisdiction. Appendix D provides a brief summary of the residential and C&I ABACCUS methodologies. Each attribute (element) and its weighting is provided.

Volume II has three additional appendices. Appendix E provides a summary for each state and province, including a high level summary of ten years of restructuring, switching statistics and data regarding residential sales and average prices. Appendix F provides detailed information about the Residential ABACCUS methodology. Appendix G provides detailed information about the C&I ABACCUS methodology.

Commercial & Industrial ABACCUS Findings

Commercial and industrial consumers in more than a dozen competitive retail electricity markets 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 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 variability. Their choice depends on their unique industrial process, willingness to respond, and the technical feasibility of the response. Building management systems continue becoming more sophisticated to facilitate more real-time decision making. Large commercial and industrial consumers are able to invest in backup generation, on-site energy storage, and end-use load controls to participate in power markets to manage usage and lower costs.

Number of Retailers

Commercial and industrial retail electricity customer choice has been successful in North America. Electricity choice is thriving for these consumers because states and provinces have achieved a balance between the flexibility afforded to large consumers and the minimal regulatory oversight necessary and desirable to build confidence in well-structured C&I markets and draw in many retailers. The number of retailers in jurisdictions with active C&I markets continues to rise.

Table 1 Number of Retailers Making Offers to Large C&I Customers*

Texas	60
Maryland	44
Massachusetts	40
New York	40
Pennsylvania	35
Michigan	26
Delaware	23
Illinois	23
New Jersey	21
District of Columbia	17
Maine	16
California	12
Connecticut	8
New Hampshire	8
Alberta	8
Ontario	7
Ohio	5
Oregon	5

** A few jurisdictions make no distinction between licensed/certified companies and active companies; therefore, these data are not strictly comparable.*

Variety of Offerings

A huge variety of electricity products and services is available. 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 their operations
- Prices that change hourly so the consumer can assume risk if that serves their business
- Green power that is backed by production from renewable resources
- Sustainable energy paths that are low-carbon or carbon-neutral
- Bundled equipment maintenance costs with their electric service
- Retailer-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 opportunities if their operations allow it

Large C&I consumers were early beneficiaries of retail electricity choice largely because they were already knowledgeable about how to contract for power and associated services. Large consumers must determine how best to manage a variety of inputs into their industrial processes and business operations. Electricity is just one of many important and complex issues that large consumers deal with every day. Business needs vary, facility configurations vary, and management preferences and needs differ. The competitive market is best at satisfying these diverse needs. The old “one-size-fits-all” regulatory model does not serve consumers as 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 these consumers and the introduction of retail choice to the electric industry is spurring innovation and efficiency.

C&I Switching Statistics

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

Table 2: Jurisdictions with Greater than 50% Large C&I Customer Switching*

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

Table 3: Jurisdictions with Greater than 40% Medium C&I Customer Switching*

District of Columbia	78.2%
Texas	74.4%
Delaware	68.6%
Maryland	67.3%
Connecticut	65.0%
Massachusetts	56.8%
Illinois	54.5%
New York	53.4%
Alberta	47.1%
Maine	44.9%

** The jurisdictions use different definitions; therefore, these data are not strictly comparable. Several jurisdictions distinguish between commercial and industrial consumers (separated as medium v. large here). Others specify various size thresholds between medium and large. A few place all nonresidential consumers in one group. Additionally, most jurisdictions allow incumbents to compete with competitive offers.*

C&I ABACCUS Scores and Rank

The C&I ABACCUS methodology includes twenty-eight important dimensions of service. The facts in each state were assessed, scored, weighted and summed, and the states/provinces were ranked accordingly. Each jurisdiction's level of progress was then assessed based on qualitative input from a

team of advisors. The following four terms have been selected to describe the status of each market: excellent, good, marginal, and unsatisfactory. This is a slight adjustment to the terms used in previous ABACCUS reports in order to better capture and categorize progress.

More than a decade has passed since the initial US states launched pilot programs to offer retail choice of power supplier to consumers. A number of states have been very successful in providing the benefits of retail choice to large customers. Several of the states with lower scores have made inappropriate choices and their success with C&I consumers has been limited. These states offer retail choice, but they have had problems with implementation, including restrictions placed on the ability of consumers to choose, or on retailers to offer their products and services. In some instances the design of the default service product has not supported the introduction of competition.

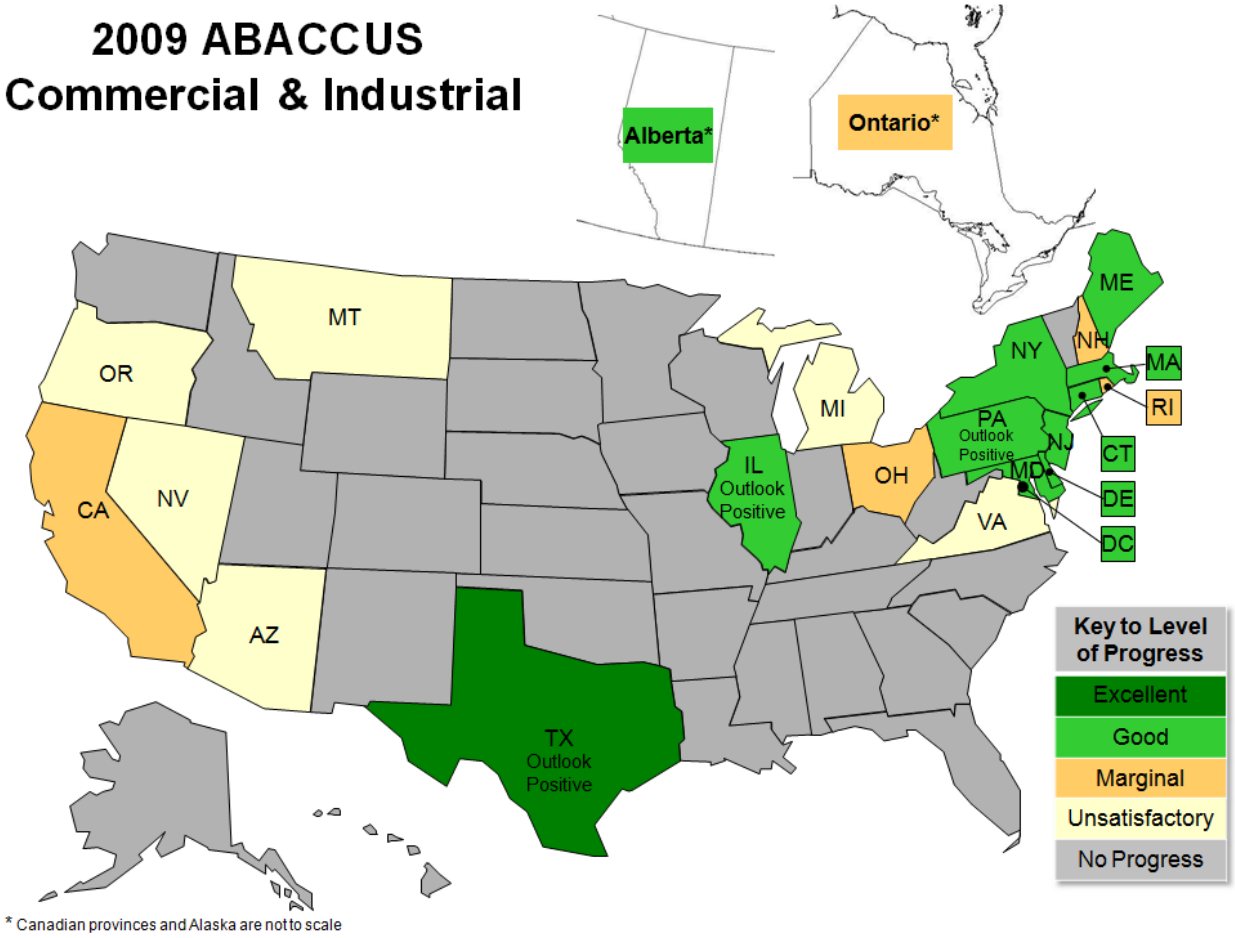
Table 4: 2009 Commercial and Industrial ABACCUS Scores and Rank

Jurisdiction	2009 Score†	2009 Rank	2009 Assessment	2008 Rank	2008 Assessment
Texas	84	1	Excellent	1	Excellent
New York	61	2	Good	2	Good
Maryland	61	3	Good	4	Good
Illinois	60	4	Good	3	Good
Maine	57	5	Good	6	Good
Massachusetts	55	6	Good	7	Good
District of Columbia	54	7	Good	12	Medium
Alberta	53	8	Good	5	Good
Connecticut	52	9	Good	8	Good
New Jersey	51	10	Good	9	Good
Pennsylvania	49	11	Good	10	Medium
Delaware	49	12	Good	11	Medium
New Hampshire	37	13	Marginal	15	Medium
Rhode Island	33	14	Marginal	14	Medium
California*	33	15	Marginal	17	Marginal
Ohio*	33	16	Marginal	13	Medium
Ontario*	32	17	Marginal	16	Medium
Michigan*	NA	18	Unsatisfactory	19	Unsatisfactory
Virginia*	NA	19	Unsatisfactory	18	Unsatisfactory
Arizona*	NA	20	Unsatisfactory	20	Unsatisfactory
Oregon*	NA	21	Unsatisfactory	21	Unsatisfactory
Montana*	NA	22	Unsatisfactory	22	Unsatisfactory
Nevada*	NA	23	Unsatisfactory	23	Unsatisfactory

† Scoring is very tough and there is no "grading on a curve." No jurisdiction will ever score 100 because perfect scores for particular ABACCUS elements may not be ideal or even practical in a particular jurisdiction given its history of regulation and restructuring.

** Several states received a qualitative assessment slightly inconsistent with the quantitative score. This is intentional. It is possible to score points with certain reasonable policies, yet limit the success of retail choice as a result of other policies.*

Figure 1: 2009 Assessment – Commercial & Industrial



Default service (standard or basic service), refers to a transitional regulated service. Stated plainly, in a few jurisdictions default service was designed to keep rates artificially low throughout the transition to competition, thereby discouraging market entry and competition. A poorly designed default service undermines retail competition. If default service attempts to address all C&I consumers' needs, bundles and spreads risks among all consumers, or is priced below cost, then it is unlikely that retail electricity providers will enter the market. Experience has shown that to encourage the development of a competitive retail market, default service rates must be market-reflective in the near term, and they must provide opportunities to competitive retailers.

An important factor over which states and provinces have less control is the success of multi-jurisdictional organized markets, that is, electricity markets with regional transmission organizations (RTO) or independent system operators (ISO). Fortunately, federal oversight of multi-jurisdictional organized markets in the US has resulted in enhanced wholesale market competition. For example, in recent orders the Federal Energy Regulatory Commission (FERC) has requested that organized markets enhance the operation of the market monitor and improve demand response programs. Demand response is particularly helpful and useful to large customers as it provides an additional set of options

with respect to the reliability of service and the ability to participate in resource and ancillary markets, supplying capacity, energy, operating reserves and power quality regulation, to name a few.

Residential ABACCUS Findings

More than a decade has passed since the initial US states launched pilot programs to offer retail choice of power supplier to consumers. While the participation of large energy consumers has been good since then, and has been widely lauded as a success, perceptions around mass market participation in retail choice have been mixed. Some observers are very critical and skeptical of the ability of residential consumers to benefit from retail choice.

Residential electricity choice began in the late 1990's with much positive anticipation and much initial success in several states. However, the California market problems during 2000-01 brought uncertainty to retail markets. Later, rising input fuel prices resulted in higher market prices for electricity. These market prices have increased the cost of residential electricity service. Further, states have adopted policies that limit or discourage the participation of retailers. As a result, the participation of residential customers in retail choice programs has declined in several states. However, participation is growing in other states, raising questions about what is different among these states.

Number of Retailers

As compared to the C&I sector, residential market development is typically slower due to a greater degree of hesitancy by policymakers with respect to fostering the development of residential electricity markets, coupled with energy retailers' normal market penetration efforts.

Table 5: Number of Retailers Making Offers to Residential Customers*

Texas	30
New York	27
Connecticut	9
New Hampshire	7
Maryland	5
Alberta	5
Illinois	4
Massachusetts	4
District of Columbia	3
Pennsylvania	4
Maine	2
Rhode Island	2
Delaware	1

** A few jurisdictions make no distinction between licensed/certified companies and active companies; therefore, these data are not strictly comparable.*

Variety of Offerings

Residential consumers can also exercise 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 or hydroelectric facilities. In some states, consumers can bundle heating and cooling equipment check-up or maintenance costs into their electric bill. 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 "smart grid" infrastructure continues taking off, residential markets are beginning to open up to include home area networks and control devices that will be coordinated with these smart grid investments.

The variety of offerings available in the markets is quite different in each jurisdiction. In those states with just a few retailers, each retailer may only offer one or two products. However, in states with many providers, customers have many diverse offers to choose from. In Houston, Texas, for example, there were approximately 120 products offered to residential consumers by 30 retailers on the state's "Power to Choose" website as of early November 2009. These included products for terms of one month to five years; various levels of renewable energy—from zero to 100%; and with fixed, variable and indexed rate options.

Residential Switching Statistics

The rate of customer switching off default service is small in most jurisdictions. Some jurisdictions have used aggregation programs to help "jump-start" customer choice activity. For example, Massachusetts has achieved about one-half its switching through aggregation programs. Ohio used to have significant switching through aggregation but it has fallen off. Texas has experienced strong residential customer choice without significant aggregation activity, with 47% of eligible residential customers switching to non-incumbent providers. Furthermore, the 53% of residential consumers who remain with an affiliated retail energy provider (incumbent) are no longer on a fully-regulated default service tariff. Texas' "price-to-beat" default service ended nearly three years ago, leaving virtually all Texans (the eligible 62% of the state) on competitive prices.

Table 6: Jurisdictions with Greater than 10% Residential Customer Switching*

Texas	46.8%
Alberta	28.0%
Connecticut	17.7%
New York	16.9%
Massachusetts	13.2%

** The jurisdictions use different definitions and provide updates at infrequent intervals; therefore, these data are not strictly comparable. Additionally, most jurisdictions allow incumbents to compete with competitive offers.*

Residential ABACCUS Scores and Rank

Several states and Canadian provinces continue to make progress in restructuring the mass market portion of the retail electricity market, addressing issues as they arise and moving forward. Residential electricity choice continues to thrive in Texas.

The Residential ABACCUS considers twenty-three important dimensions of service. The facts in each state were assessed, scored, weighted and summed, and states were ranked accordingly.

Table 7: Residential ABACCUS Scores and Rank

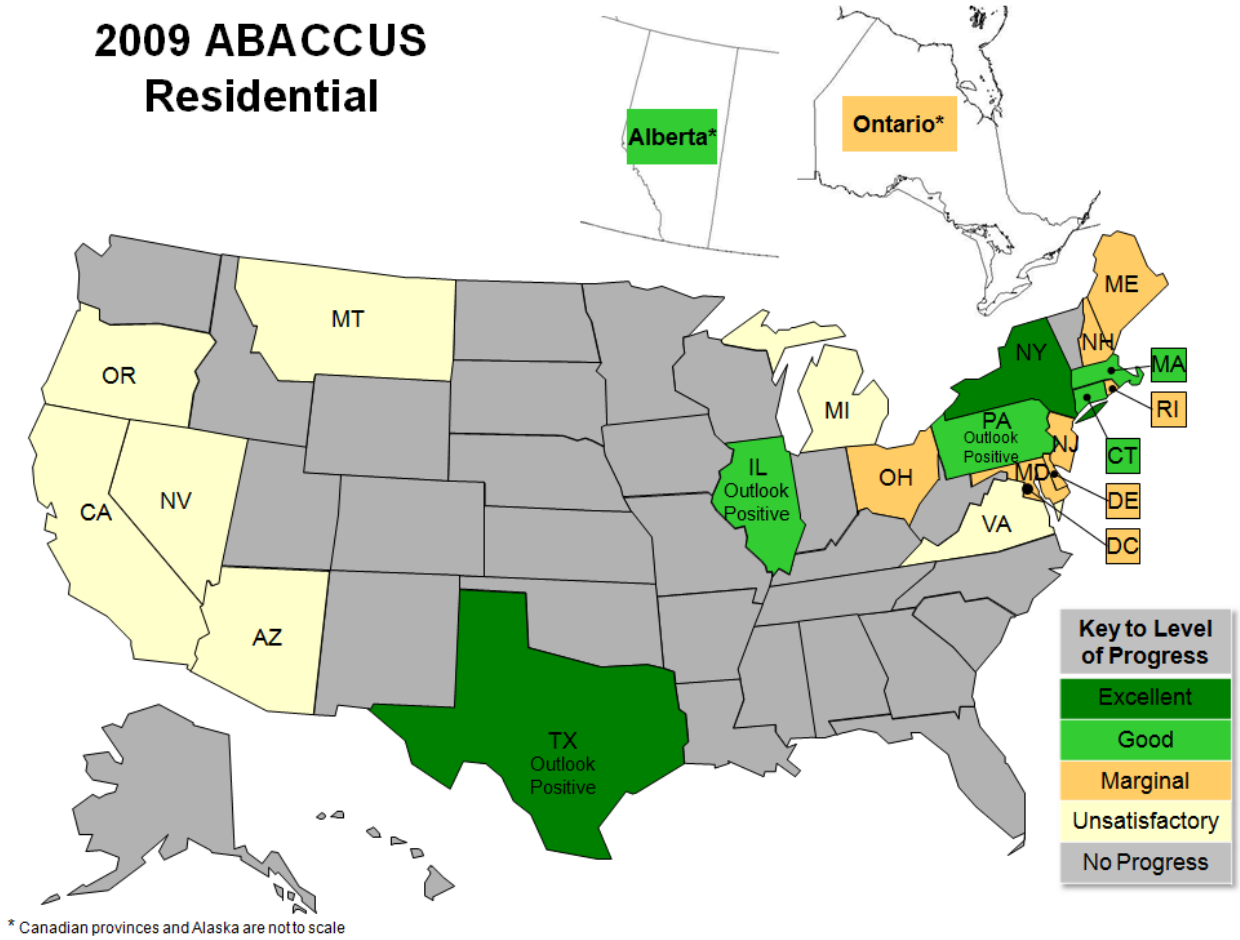
Jurisdiction	2009 Score†	2009 Rank	2009 Assessment	2008 Rank	2008 Assessment	2007 Rank	2007 Assessment
Texas	83	1	Excellent	1	Excellent	1	Excellent
New York	63	2	Excellent	2	Excellent	3	Good
Alberta	63	3	Good	3	Good	2	Good
Maryland*	51	4	Marginal	4	Good	4	Medium
Massachusetts	51	5	Good	5	Medium	6	Medium
Maine*	49	6	Marginal	6	Medium	5	Medium
Connecticut	47	7	Good	7	Good	10	Medium
Illinois	45	8	Good	10	Good	8	Medium
Pennsylvania	44	9	Good	9	Good	9	Medium
New Jersey*	43	10	Marginal	8	Medium	7	Medium
District of Columbia	39	11	Marginal	11	Medium	12	Medium
Delaware	37	12	Marginal	12	Medium	13	Medium
New Hampshire	37	12	Marginal	14	Medium	18	Marginal
Ontario	36	14	Marginal	13	Medium	11	Medium
Rhode Island	33	15	Marginal	15	Medium	14	Medium
Ohio	32	16	Marginal	16	Marginal	17	Marginal
California*	28	17	Unsatisfactory	17	Marginal	21	Unsatisfactory
Michigan*	NA	18	Unsatisfactory	18	Unsatisfactory	15	Marginal
Montana*	NA	19	Unsatisfactory	19	Unsatisfactory	19	Unsatisfactory
Virginia*	NA	20	Unsatisfactory	20	Unsatisfactory	16	Unsatisfactory
Oregon*	NA	21	Unsatisfactory	21	Unsatisfactory	22	Unsatisfactory
Nevada*	NA	22	Unsatisfactory	22	Unsatisfactory	23	No Progress
Arizona*	NA	23	Unsatisfactory	23	Unsatisfactory	20	Unsatisfactory

† Scoring is very tough and there is no "grading on a curve." No jurisdiction will ever score 100 because perfect scores for particular ABACCUS elements may not be ideal or even practical in a particular jurisdiction given its history of regulation and restructuring.

** Several states received a qualitative assessment slightly inconsistent with the quantitative score. This is intentional. It is possible to score points with certain reasonable policies, yet limit the success of retail choice as a result of other policies.*

The ABACCUS map displays the results by converting the scores into four categories: places that have made excellent progress, good progress, marginal progress, and states where the progress has been unsatisfactory.

Figure 2: 2009 Assessment – Residential



Progress in the States and Provinces

Appendix E provides a summary for each state and province, including a high level summary of ten years of restructuring, switching statistics and data regarding residential sales and average prices. Below are some key highlights for each jurisdiction:

California

In May 2007, the California Public Utilities Commission determined that it would investigate the potential to reopen the retail market for direct access. The CPUC has determined in Phase I of Rulemaking 07-05-025 that it does not currently have authority to reinstitute direct access. (Note: The California Department of Water Resources (DWR) still "sells electricity" under existing law and the CPUC must extricate DWR from that role prior to the reopening of the market. Phase II of Rulemaking 07-05-025 is considering the public policy merits and prerequisites to reopening direct access. 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.

Connecticut

Connecticut regulators considered utility requests to permit long-term power contracts as a hedge against future cost increases. The risks associated with hedging have significant consequences for retail market entry and the health of a competitive marketplace. Long-term contracts which become higher than future market prices will place a burden on consumers; on the other hand, long-term contracts which become lower than market prices will effectively freeze competitors out of the marketplace. Connecticut placed limits on utility contracting for default service. On the bright side, residential switching has increased by significantly from 6.6% of customers to 17.7% of customers over the past year. Likewise, business customer switching has reached 76.7% of sales overall, and large customer switching exceeds 91%.

Illinois

The Illinois Commerce Commission has a new Office of Retail Market Development (ORMD). ORMD prepared its first annual report in July 2008 pursuant to the requirements of Section 20-110 of the Illinois Public Utilities Act. Other changes in the law were designed to remove barriers to competition for residential and small commercial customers. There have been new suppliers certified to offer products and services to small consumers. During the past two years, the commission has determined that larger customers are capable of securing power competitively. Depending on the utility service territory, the default service tariff has been eliminated for customers above a certain size and upon a certain date. The Illinois Commerce Commission has also been addressing the purchase of receivables (to encourage alternative electricity suppliers to serve all consumers), consolidated billing, and referral programs. The ORMD will continue to engage all stakeholders to ensure that the barriers to residential choice are addressed, determine how to further 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. Ameren Illinois had a new purchase of receivables tariff take effect in late 2009. Commonwealth Edison's purchase of receivables tariff may be finalized by September 2010. These are among the promising recent actions by the ORMD. While there is negligible residential customer switching, small-to medium-C&I customer switching rose in Illinois from 50.2% to 54.5%, and large (> 1 MW) C&I customer switching increased from 92.6% to 94.4%.

Maine

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 transmission cost allocation was equitable. The MPUC found that the ISO-NE structure benefits Maine's markets and consumers through operational control of the grid, market design and operation, and development of demand response programs. The MPUC directed Maine's two largest utilities to aggressively pursue reforms of their relationship with the ISO-NE. In October 2009 the MPUC approved the first long-term contract since electric restructuring began by approving a 20-year contract with a wind developer delivery of the 60-megawatt Rollins wind project in Penobscot County. Central Maine Power and Bangor Hydro Energy will share the contract 80%-20%, respectively. Residential switching decreased slightly this past year; however, and nonresidential switching increased

in the state from 36% to nearly 45% among medium C&I customers, and from 91.8% to 93.2% among large C&I customers.

Maryland

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 develop as envisioned. In April, Maryland's House Economic Matters Committee voted nearly unanimously to kill the bill. It is expected that Maryland's governor will try again to re-introduce anti-choice legislation in 2010. Residential switching increased from 3% to 4.2%, mid-sized C&I switching increased to 62.3% to 67.3% and large C&I dropped from 94.3% to 93.5% of peak load obligation. (This is the second-highest rate in the country, just behind Illinois.)

Massachusetts

Residential switching increased from 11.2% to 13.2%, and C&I switching increased in each size category. Overall, statewide switching was 52.5%.

Michigan

In Michigan, a bill introduced in December 2007 (HB 5524) has become law and more or less rescinds restructuring, placing a utility-specific load cap of 10%. 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. PA 286 requires customers who have elected choice in the past to declare within 90 days whether they would continue to receive power from an alternative electric supplier. Customers are required to give notice of a return to regulated service, and pay the higher (for one year) of average rates or market prices at the time of return. New customer would not be eligible for choice and would receive standard tariff service. The MPSC determines how to treat first-come-first served provisions of the law. In the Consumers Energy service territory, maximum (10%) has been reached, within the DTE Energy service territory, 8% of load has switched and it is expected to soon reach the maximum, placing pressure on the legislature to re-visit the cap provisions given customer interest.

New Jersey

In late 2009, the 2010 resource auction is underway. New Jersey is dividing the segments of power into smaller amounts. In the JCP&L service area, for example, there is a transition toward more tranches of approximately 100 MW each. There will be 18 tranches this year, but by the 2012 auction there will be 53 tranches. The average default service generation price next year will include power procured in the 2008, 2009 and 2010 auctions, with 2010 auction fixed-price contracts replacing those from 2007. (See below for more on default service.) While there is negligible residential customer switching, medium-C&I customer switching rose in New Jersey from 13% to nearly 18% and large C&I customer switching remained at about 83%.

New York

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

Pennsylvania

Like several other states, Pennsylvania is pursuing additional energy efficiency programs while aggressively fostering retail market development. In October 2008, HB 2200 became law as Act 129 of 2008. The Act expanded the PUC's responsibilities regarding the reduction of energy consumption and demand. The PUC must adopt an Energy Efficiency and Conservation Program, conduct rigorous evaluation of the program and analyze the costs and benefits subject to the total resource cost test. In the future, the PUC is required to address electric distribution utility and default service provider responsibilities, conservation service providers, smart meter technology, time-of-use rates, real-time pricing plans, default service procurement, market misconduct, alternative energy sources, and cost recovery. Meetings in September and October 2009 addressed the draft audit plan for the statewide program. The PUC approved default service plans for PPL, PECO, and MetEd/Penelec, which include market-reflective pricing, purchase of receivables, and other tools to foster retail market development. Two of the seven major utility service territories saw increases during the past year in switching rates, increasing to 51% and 60% of sales in those regions, respectively. Significant migration is expected in PPL in 2010, as rate caps expire and numerous residential and non-residential competitive suppliers enter the market.

Texas

Texas has made excellent progress by adopting rules that encourage numerous power producers and retailers to compete and to offer a variety of services. Texas laws do not give incumbents undue advantage. Texas ended its "price-to-beat" (default service) at the end of 2006 after five years and residential consumers made a smooth transition to a competitive rate. Today, 99+% of the Texans who are eligible to choose a retail energy provider (REP) are served with a competitive product (not state regulated). Forty-seven percent of eligible residential customers receive service from non-incumbent REPs. Those who remain with the incumbent, have, for the most part, made an observable choice (electing service with a specific term). Switching rates continued to rise by several percentage points in each category in Texas, reaching 64.9% of total eligible retail sales in the state.

Texas has advantages over other states including a state-regulated (intrastate) independent system operator (ISO) with responsibility for reliability, open access transmission, settlement in the energy-only market, managing retail switches and managing renewable energy credit trading. Texas also has policies that promote investments in generation, a healthy economy, a favorable business climate, and

consistent regulations. However, it is not these features alone that have resulted in robust electricity choice. Rather, it has been the deliberate policy choices made by the Texas Legislature, the Public Utility Commission of Texas, the ISO (ERCOT, the Electric Reliability Council of Texas), and electricity market participants that have provided a new platform from which competitive services could be offered.

Alberta

Alberta has an active energy only power market that has increased capacity by about 50% over the past ten years. Twenty-eight percent of residential consumers are off of default service, and the Retail Markets Division of the Alberta Department of Energy is studying how to attract more retailers to the province. Switching rates among small commercial and large industrial customers is 47% and 82%, respectively.

Ontario

The Ontario Energy Board has worked to reduce rates for residential consumers, but this may affect the viability of the market for energy retailers. Effective November 1, 2009, eligible consumers pay $0.058/kWh up to a threshold amount, and $0.067/kWh over this amount. (The price threshold is 600 kWh per month in the summer and 1,000 kWh per month in the winter.) These prices exclude transmission and distribution costs and are updated every six months. The Ontario Energy Board also sets time-of-use prices for eligible consumers who opt for time-of-use pricing under the Ontario Smart Price Pilot.

Issues

Default Service

Several states offer retail choice, but some have had problems with implementation, typically as a result of the restrictions placed on the ability of retailers to make a reasonable profit for the risks they incur. Default service refers to a transitional regulated service. In some instances the design of the default service has not supported the introduction of competition. Stated plainly, in some jurisdictions, default service has been designed to prevent consumers from engaging the competitive market, rather than encouraging consumer behavior that is conducive to establishing a functional competitive framework.

The design of default service is the most significant factor that determines the success of retail choice among residential consumers. It is generally agreed that after a century of regulated tariffs, the typical residential consumer requires some time and education to understand what new options are available, how to evaluate the alternatives and how best to align market choices with individual need. A poorly designed default service undermines retail competition. If default service is designed so as to attempt to address all residential consumers' needs, or if it bundles and spreads risks among all consumers, or if it is priced below cost, then it is unlikely that energy retailers will enter the market. Experience has shown that to encourage the development of a competitive retail market, default service must be a more market-reflective rate in the near term, and it must provide opportunities to competitive retailers.

We recommend that each state or province adopt the following principles:

- Default service is a transitional service – it has a clear beginning and ending date for the majority of residential and small business consumers

- Default service is unnecessary for very large consumers (e.g., C&I customers who require one megawatt or more)
- Default service is easy to understand
- Default service meets only a consumer's basic needs (markets provide variety)
- Default service closely tracks the cost of power in the wholesale power market

At times, various states have taken actions inconsistent with these principles.

Ohio. In Ohio, the restructuring law was modified to disconnect retail electricity consumers from market forces. Ohio's SB 221 requires electric distribution utilities to provide consumers with standard service offer that either relies on regulated rate-based utility power plants, or market-rate offers determined through competitive bidding, or both. In essence, distribution utilities must now have an electric security plan to provide rate stabilization through firm power commitments.

Maryland. In Maryland, rate caps were scheduled to expire, and the anticipated price increases led to consideration of numerous alternative rate mitigation proposals. The Maryland Public Service Commission has moved residential customers to a two-year bidding framework, with one-fourth of the load bid every six months. In the Baltimore Gas and Electric Company service territory, a rate stabilization charge spreads cost increases over the next 10 years.

New Jersey. The 2008 auction in New Jersey covers hourly-priced service for large customers for one year beginning June 1, 2008. The fixed price customer auction for is for a supply period of three years, with 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.

It is easy to understand why it can be politically expedient to take these actions. Some residential customers are not used to price volatility, and it takes some time for new service providers to make the investments necessary to offer different services that will result in different outcomes. Wholesale markets have only recently come to grips with the need for demand response over the past two to three years. This move will lessen the need for peaking units and decrease price volatility in wholesale markets. It will also take time in retail markets for consumers to get used to the new companies that assume price risk and offer guaranteed pricing plans. Whether it is price risk management services (fixed prices and indexed prices), green pricing alternatives, demand response services, etc., the competitive market is the best means of providing a flexible and cost-efficient response to market needs.

Social Goals

Competitive markets provide the best foundation for addressing social goals such as environmental protection, the promotion of technological advances, and the strengthening of the electric grid through dispersed generation. Many states are pursuing several goals simultaneously – for instance, pursuing a competitive electricity market design along with aggressive goals for energy efficiency. A command and control approach is feasible, but less than ideal.

ABACCUS makes a distinction with respect to state policies relating to demand response (DR) because of DR's critical value to regional resource adequacy and customer choice. ABACCUS makes clear the preference for demand response programs to allow wholesale markets to function effectively and efficiently. Demand response programs improve the performance of bulk markets by better aligning demand and supply. Further, demand response activities provide customers with additional choices with respect to assignment of risk and the attribution of cost causation. That is, customers who are able to

curtail their usage when congestion is high and/or supplies are tight can benefit from their ability to be flexible, and the total systems costs will be lower – a benefit to all consumers. DR programs must be administered centrally to a certain degree, such as through a market mechanism set up and administered by an independent system operator.

On the other hand, one well-understood option for customers is renewable resource technologies and green pricing. Texas, New York and other places that have restructured have experienced rapid growth in renewable generation. These states have numerous green pricing offerings available rather than one plain vanilla offering. By allowing consumers to vote with their dollars, these states are seeing a rapid flow of dollars into new technologies.

Another trend during the past two to three years has been increased interest of state and provincial governments to take action on climate change and energy efficiency. The ABACCUS methodology is indifferent to policies relating to renewable resources and energy efficiency as long as the policies treat all the market participants fairly. As state and federal policies evolve, it may be appropriate in the future to measure and assess alternative approaches to provide incentives for energy efficiency (EE) and carbon mitigation. For example, white certificate trading may facilitate energy efficiency investments best and enhance the range of choices far more effectively than standards or centrally planned EE programs. This is an issue that will be revisited.

ABACCUS does not yet attempt to directly measure how renewable energy (RE) and energy efficiency activities might be implemented. There are a wide range of options available, from government run programs to a robust retail marketplace for RE and EE services. Retailers may wish to bundle renewable resources and energy efficiency into the services they provide to consumers. For that reason alone, however, renewable resource and energy efficiency activities ought to be designed to maximize the use of markets, and minimize prescriptive or command and control activities. It is preferable to set goals for utilities or load serving entities, and then let them determine how best to achieve them. Programs that specify technologies that must be offered directly to residential customers may fail. Each jurisdiction ought to exhaust all the market-based options for technology deployment before engaging directly in the activity, or requiring the electric distribution utility to engage in it. By establishing a platform for a market and marketers, energy efficiency and renewable energy deployment can support the establishment of competitive markets while achieving social goals.

Average Pricing

Average electricity prices have been used to compare states and criticize electric restructuring and retail electricity choice. Recent increases in average price in regulated states reveal the folly of such "snapshot" comparisons of prices. Further, this approach is fundamentally flawed in that it assumes that average electricity prices are the most important or even the <u>only</u> measure of success. Finally, emphasis on average price comparisons reveals a basic misunderstanding of economic value, consumer preferences, and technological advancement.

Small consumers traditionally assess the market for electric service by looking at two measures: the price of electricity per kilowatt-hour and the value of the service they receive, including reliability. Simple comparisons of the price of electricity in traditional, regulated electric markets with the price in competitive markets are not particularly valuable. It is true that average price comparisons are simple to understand and price increases are always sure to make a newspaper headlines. Both regulated and restructured states have seen price increases and decreases. However, a regulatory mindset is focused on percent rate requests and cents per kilowatt-hour. Unfortunately, the cents-per-kilowatt-hour

mindset is holding back progress. This mindset squashes reforms that could lower costs and increase the value of energy services to consumers, both today and over the long-term.

Decades of average price reductions occurred during periods of rapid electrification and supply-side technological change in the mid-twentieth century. This period was marked by power plant engineers who designed and companies that constructed the larger, lower-cost-per-unit generating plants. This period ended in the 1970s, but the supply-side mindset persists. Unfortunately, not enough utilities, regulators and consumers have moved quickly enough to adopt a better cost-reduction paradigm. As a result, average prices per unit have increased for years. Some federal and state policy makers in the 1970's recognized the power of energy efficiency and demand-side technological innovation, but new energy policies were not sustained or fully implemented. Energy efficiency and demand response have only recently become national priority and there is still much work to do. Now, all kinds of energy retailers and energy service or solution providers are poised to deliver energy efficiency, demand response, renewable energy resources, financial and risk management products and smart grid choices that will transform the electric industry and continue moving the policy debate away from cents per kilowatt-hour comparisons.

Where electricity costs were the highest, states considered restructuring to apply market forces where regulation had failed. For a variety of reasons, this did not lead to immediate average price reductions. In regulated states, it has been possible to shift costs from one time period to another, delaying the bad news. In increasingly many instances, this approach is catching up with those who advocate for more regulation. Simply put, rising input fuel prices are affecting all jurisdictions, not just restructured states.

It is generally agreed that large commercial and industrial consumers have benefited from the introduction of retail electricity competition. One way to measure robust C&I customer competition is in terms of the amount of load switching from default service to a competitive rate. C&I customers have signed favorable power contracts, benefited from price reductions, and benefited from new products and services that help them manage risk and energy costs. Large C&I customers are comfortable managing risks and input costs in this manner. The ability to procure energy to match a customer's fiscal budget cycle and to hedge that cost by fixing it has been as important as absolute price. Control over price volatility is valued by many risk-averse customers. Other C&I customers, whose energy budget is a smaller percentage of their cost of doing business, may choose a more volatile pricing product. Utilities and regulated default service providers that have routine fuel factor adjustments have the ability to shift the risk of price changes to customers who have little opportunity to hedge such price. A key advantage of retail choice is that customers can procure energy in a manner that best fits their risk profile.

Larger C&I customers are able to manage energy costs as a part of the overall business plan. Industrial operations with storage capability and production line flexibility may participate in demand response markets, for example. This may require the installation of new on-site equipment and may be part of a significant re-engineering of their industrial process. The absolute level of energy cost is merely one of many costs which are managed. The C&I customer loads can provide capacity and energy resources in organized wholesale markets and receive compensation for peak capacity, operating reserves and regulation service. Management of these cost and revenue streams is complex and assistance is provided by energy service specialists and retailers. Many C&I customers have also installed new equipment on-site to increase power quality and reliability. Overall, large electricity customers are comfortable with the ability to choose. The competitive market allows access to specialized products and services in a timely fashion. Market allocation of resources ensures efficiency and equity.

Many smaller consumers have demonstrated a preference for green power. Customers have chosen to be LEED certified and one way of doing so is to procure 20% of consumption as green or to acquire the equivalent in Renewable Energy Credits. Competitive packages can bundle such credits with other

energy products to satisfy these customers' desires. Small consumers are also expressing a growing appreciation for energy-efficient appliances and devices, green building technologies, and actions to protect the environment. The beauty of the competitive market is the ability of retailers to respond rapidly to these stated or measured preferences. Retailers are able to bundle new energy services and products with non-energy offers and are willing to bear the full financial risk of their experiments. This entrepreneurialism is extremely valuable, and is a hallmark of competitive markets.

Technological change has been rapid and extremely valuable in industries that are exposed to market forces. The electric industry is poised to combine new infrastructure investments (such as advanced meters, communications and control) with the entrepreneurship of mass-market retailers. In the future, consumers may be able to lower their total energy costs, increase their reliability and control, reduce their impact on the environment, and increase the value of electric services in their lives. We have only just begun the changes that will transform the electric industry and the way consumers interact with their appliances and devices.

The search for the right combination of services and products is unlikely to come through regulation. Regulation is constrained by the outdated concept of focusing on the average cost of a unit of electricity. Anyone who has purchased a flashlight battery or recharged a cell phone may be aware of a value of electricity not based on minimizing cents per kilowatt-hour. (That is, whether they are aware of it or not, they value the convenience and mobility offered by these devices, and they pay extremely high costs per kilowatt-hour to obtain that value!) The need for change and reform is great and competitive markets can provide the best means of achieving enhanced value and reduced cost.

Recommendations

The ABACCUS methodology defines a framework and scoring system that reflects the direction in which each jurisdiction should consider to improve the likelihood of success of retail electricity competition. The recommendations are based on impressions collected over the years during interviews. Through interviews it is apparent that certain states are on a course that is likely to enhance retail choice, while other states are continuing to regulate in a manner that drives retailers out of the market.

States that discounted prices and deferred costs into the future continue to deal with those costs a decade later. (Some of these costs were already decades old when retail choice was enacted!) While accepting the realities in each state, the ABACCUS Advisory Board believes it is important to point out that public policy choices should generally rely on competitive forces to the greatest degree possible. Some of the choices are difficult to make, but necessary if the states are interested in authentic retail electricity choice.

Retail Market Status

Customers must be eligible to participate. Several states have yet to open all areas to retail electric choice. Therefore, they limit the ability of commercial and industrial customers within those service territories to opt out of the local rates and regulatory decisions. This recommendation is not to be taken in isolation. It is understood that all the other public policy choices must be favorable before a state opens a new segment of the population to retail choice.

> *Recommendation #1: Allow all electricity consumers to participate in a competitive retail electricity market.*

Wholesale Market Competition

Wholesale market development must accompany retail electricity competition. Ten organized markets in the U.S. and Canada are making advances in wholesale market development that serve retail electricity markets. Effective wholesale markets are a key component of a working retail market because a retail power supplier can manage physical and financial risk in a way that is beyond the capabilities of a typical energy consumer. Through scale economies and a deep understanding of both the wholesale markets and the customers' needs, a retailer can provide differentiated and customized risk management services that individual customers can choose. These products are generally not available through regulated rates. Policies to support fully integrated electricity markets include the adoption of advanced market policies and the integration of retail customers into demand response activities. Retail customer participation in wholesale markets is good for the customers who choose to participate in the market (lowering of costs) and it is good for the network (customer participation in wholesale markets can reduce price spikes and congestion).

> *Recommendation #2: Support the introduction of advanced wholesale market practices including market-based congestion management and markets for balancing energy, regulation and reserves.*
>
> *Recommendation #3: Support the establishment of a market platform that facilitates the participation of customer loads in demand response programs, including aggregation of small-scale loads and deployment of advanced meter infrastructure.*

Default Service Design

Default service refers to basic retail pricing established to provide a transition from regulated rates to market-based prices and contracts. The design and implementation of default service is the most significant single issue affecting the success of retail choice. 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 retail electricity providers will enter the market. A poorly designed default service program can undermine retail competition because it will attempt to provide the services that a robust market can provide and therefore creates greater barriers to entry for competitive entities that are better suited to meet unique customer needs.

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. Short term prices exclude the premiums associated with long term fixed prices. For consumers who desire a longer-term fixed price product, retailers are likely to offer such products. The incorporation of a risk premium in default service, with forced repayment of that premium by all consumers, defeats a purpose of retail choice. Competitive markets can provide a range of products and services from which consumers may choose. Default service that operates in opposition to the following recommendations is likely one that mimics regulated ratemaking. However, it does not provide services that are consistent with a transition to retail competition.

> *Recommendation #4: 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 regulated default service to full competition.*

Recommendation #5: Design a default service product that is 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 competitive market participants.

Recommendation #6: If supply procurement for default service is done through mandated auctions or competitive solicitations, the term lengths should be shortened to an appropriate level for each customer group. This will ensure that appropriate pricing signals are sent to customers to allow them to better select their electric service product and to efficiently manage their energy usage.

Facilitation of the Choice of Retailer

Each state may adopt policies and programs to facilitate the choice of retailer. The options include laws regarding electric distribution utility structure, utility and utility affiliate code of conduct, rules governing billing and metering, and rules that require the standardization of business transactions among all utilities and market participants. Energy retailers will enter a market when they have confidence that old regulatory preferences have been replaced with a market structure and set of rules and oversight that treat everyone fairly. A state may also promote retail choice through customer education.

Recommendation #7: Establish a plan for the separation of regulated services from competitive services, and for the application of a strict code of conduct to govern interactions between the regulated utility and its competitive affiliates.

Recommendation #8: Establish standards for access to customer information, commercial practices and electronic data exchange to lower the transaction costs for market participants.

Recommendation #9: Establish a flexible approach to customer billing, and provide reasonable access to customer billing data, and establish a plan for advanced metering infrastructure.

Social Goals

With heightened interest in climate change, there is renewed interest in energy efficiency, renewable energy resources, demand response and small-scale power production/distributed generation. States and provinces employ a variety of mechanisms to achieve new goals for energy efficiency, renewable resources, demand response and the promotion of on-site power generation. Some states have taken a command and control approach through standards and codes. Others have used market-based incentives to encourage businesses to offer new technologies and services. It is worth noting at the outset that the delivery of goods and services to the customer premises – including these alternative energy options – is ideally suited for competitive markets. Most people are used to using competitive markets to purchase and maintain their appliances, home repairs, and home improvements. Regulated monopolies have not traditionally supplied services within the customer premises.

Collective government action in the pursuit of certain societal goals should keep in mind that the actions of individual consumers are necessary to ensure the success of customer premise technologies. It behooves government to make sure that the implementation of the goals is done in a way that takes full advantage of the value of markets to achieve these goals; that is, the value of rational consumers and service providers determining how best to address consumer needs. The day-to-day interactions among

consumers and retailers are important to successfully bring new technologies to a broad audience. Government has an important role to play in the creation of the market platform and rules.

> *Recommendation #10: Rely on market forces to the maximum extent possible to achieve goals relating to renewable resources, energy efficiency, demand response and distributed generation.*

Competitive retail electricity markets have been successful in delivering strong customer benefits in several jurisdictions that have adopted a model that encourages the participation of energy retailers. The other states and provinces of North America have an opportunity to take stock of the progress made with retail choice during the past decade, and to replicate the successes which have occurred in several states and provinces by adopting programs and policies that enhance competitive markets.

Volume I Appendices

Appendix A – Sponsors

Energy Retailer Research Consortium

The ABACCUS report is sponsored by the Energy Retailer Research Consortium (ERRC), an independent research consortium comprised of companies with a stake in competitive retail energy markets. ERRC conducts studies on retail energy market structure and performance and value-added energy services.

Energy Retailer Research Consortium
http://www.defgllc.com/content/defg/errc.asp

Direct Energy
http://www.directenergy.com/

Green Mountain Energy
http://www.greenmountainenergy.com/

TXU Energy
http://www.txuenergy.com/

Shell Energy
http://www.shell.us/

Project Advisors

Pat Wood III, Principal
Wood3 Resources
http://www.wood3resources.com/

Vicki Sandler, President
Wearthy Ideas, LLC
http://www.wearthyideas.com/

Appendix B – ABACCUS Goals and Process

The *Annual Baseline Assessment of Choice in Canada and the US* (ABACCUS) gauges progress in the implementation of retail electricity choice. The ABACCUS is a report card on the electric industry's achievements in electric industry restructuring.

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
- 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 US states and Canadian provinces
- Identify potential improvement areas and suggest solutions that US states and Canadian provinces may consider implementing
- Provide information that will enable other US 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 retail electricity choice

An ABACCUS Advisory Board was created in 2006 to balance the perspectives of energy retailers with other points of view. The original Advisory Board included representatives from some of the larger state regulatory commissions: California, Illinois, Maryland, Massachusetts, Michigan, New York, Pennsylvania and Texas. This Advisory Board met via conference call between October 2006 and May 2007 to consider which issues (called "elements") to include in the ABACCUS methodology as well as to discuss the scoring and weighting of the elements.

The Advisory Board balanced the interests of energy retailers with the interests of consumers, the general public, and regulatory commissioners. Although retail competition is focused on the successful operation of the restructured marketplace, the ABACCUS Advisory Board recognizes that regulatory commissions play a very important role in market monitoring, the regulation of the monopoly network functions, and in oversight of the transitional period that requires the establishment of new rules and business processes for the facilitation of a competitive retail market.

We rely on a combination of fact checking and interviews in each jurisdiction. This involved a review of the source materials on state and utility Web sites and a telephone interview with staff members at the regulatory commissions with responsibility for the implementation and tracking of retail competition.

Appendix C – Electric Restructuring Terminology

The terminology used for common features varies widely among the jurisdictions. Here are some common terms for the competitive electric service provider and default service.

	Electric Retailer	Regulated Service (Default, Standard or Basic)	Miscellaneous
Arizona	Energy Service Provider (ESP)		
California	Electric Service Provider (ESP)		
Connecticut	Electric Supplier	Standard Service (small customers) and Supplier of Last Resort Service (large customers)	Generation Service Contract (GSC)
Delaware	Electric Supplier	Standard Offer Service (SOS)	
District of Columbia	Electric Supplier	Standard Offer Service (SOS)	
Illinois	Alternative Retail Electric Supplier (ARES)		Office of Retail Market Development (ORMD)
Maine	Competitive Electric Provider (CEP) or Licensed Retail Electricity Supplier	Standard Offer Service (SOS)	
Maryland	Electric Supplier	Standard Offer Service (SOS)	
Massachusetts	Competitive Supplier	Standard Offer Service (SOS through 2004) Basic/Default Service	
Michigan	Alternative Electric Suppliers (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 Providers (CRES)	Standard Service Offer (SSO)	Electric Security Plan (ESP) and Market Rate Offer (MRO)
Oregon	Certified Electricity Service Provider		
Pennsylvania	Licensed Electricity Supplier	Default Service	Conservation Service Providers (CSP)
Rhode Island		Standard Offer Last Resort Rates	
Texas	Retail Energy Provider (REP)	Price-to-Beat (through 2006) Provider of Last Resort (POLR)	
Alberta	Retailer	Regulated Rate Option (RRO)	
Ontario	Retailer	Standard Supply Service (SSS) Regulated Price Plan (RPP)	

Appendix D – Summary of ABACCUS Methodology

ABACCUS consistently applies an analytical tool to measure progress in implementing retail choice in North America. Appendix D provides a summary of the residential and C&I methodologies. For a comprehensive review of the methodologies, please refer to Volume II.

The methodology for assessing residential consumer markets and commercial and industrial consumer markets is similar. About two dozen issues are considered important to the measurement of progress in each instance. Data are collected from US states and Canadian provinces, and points are assigned to various options. More points are assigned to options that would advance retail choice. Weights are assigned to each question to balance the numerous factors that affect the success of retail competition. The weighted average of the scores provides a total score for each jurisdiction. These scores are ranked to show which states have made the greatest progress toward successful implementation of retail electricity choice. ABACCUS is designed to highlight the best policies and the market platform that will provide sustained market performance and long-term consumer value. Qualitative information is then used to assess whether a jurisdiction is improving or falling behind in the implementation of retail choice. Appendix A provides a more detailed description of each element and the scoring methodology.

Residential Methodology

In order to understand what is happening in these jurisdictions, we have adopted a methodology for the residential consumer ABACCUS that gathers facts on 23 issues. The methodology is organized into four general topics: A. Status of Retail Choice, B. Wholesale Competition, C. Default Service, and D. Facilitation of Choice of Retailer.

Status of Retail Choice

ABACCUS first takes a snapshot of each state to determine the percentage of residential customers eligible to participate in retail electricity choice. Next, ABACCUS considers the number of active retailers making offers in the state and the percentage of eligible customers on a competitive price. These two measures are outcomes of a successful program and result from other appropriate actions by the state or province. ABACCUS also considers the percentage of eligible customers on a competitive price, and the extent to which the jurisdiction tracks and publishes statistics relating to switching. These are some of the most fundamental measures of progress in implementing a successful restructured retail market. These elements are labeled A.1 to A.4 in this report.

Table 1: Elements for Status of Retail Choice

No.	*Element*	*Key Question*
A.1	Eligibility of Residential Customers for Retail Electric Choice	What percentage of residential consumers in the jurisdiction was eligible for retail electricity choice on March 1, 2008?
A.2	Number of Retailers Making Offers to Residential Customers	How many retailers are actively making offers to residential customers in the jurisdiction on March 1, 2008?
A.3	Residential Customers Receiving Competitive Rate	What percentage of eligible residential consumers receives service at a competitive retail rate as of March 1, 2008?
A.4	Market Switching Measure	Does the jurisdiction measure market switching in residential markets and regularly publish the result?

Wholesale Competition

Wholesale or bulk market competition can facilitate robust retail electricity choice. Policies to support fully integrated electricity markets include the adoption of advanced market policies and the integration of retail customers into demand response activities. Wholesale competition is important to retail electricity choice because retailers require access to competitive supplies of power. Retail customers who are allowed to participate in wholesale markets make choices that are good for their operations (lowering of costs) and good for the network (participation in markets for ancillary services such as responsive reserves, reduction in price spikes, and reduction in congestion). These elements are labeled B.1 to B.2 in this report.

Table 2: Elements for Wholesale Competition

No.	*Element*	*Key Question*
B.1	Wholesale Market Competition	Does the jurisdiction operate in a regional wholesale electric market that satisfies nationally established statutory criteria for open-market competition?
B.2	Responsive Demand	Are large and small retail electricity customers allowed to fully participate in wholesale reliability and capacity markets?

Default Service

Default service refers to the basic or standard rates that are established and periodically adjusted by regulators. Default service has been established as a mechanism to ease the transition from regulated tariffs to competitive electricity prices. The design and implementation of default service is the most significant issue affecting the success of retail choice. If regulators are determined to design default service so as to attempt to address all residential consumer needs, or price service below market cost, or bundle risks and spread the risk premium to all consumers, then it is unlikely that retail electricity providers will enter the market. That is, default service designed to undermine retail competition can undermine it!

Provider of last resort (POLR) service refers to “safety net” rates for consumers whose supplier goes out of business.

The elements in this topic include: which company provides default service, how default service is designed, how frequently default service is adjusted to wholesale market prices, what resources are used to supply default service (does the supplier hedge resources?), whether restrictions are placed on customers who wish to leave default service, and whether the default service rate tracks the cost of service. Also addressed under this topic are stranded cost recovery and public purpose programs that may be required by the jurisdiction. These elements are labeled C.1 to C.8 in this report.

Table 3: Elements for Default Service

No.	*Element*	*Key Question*
C.1	Default Service Supplier	What type of company provides default service as of March 1, 2008?
C.2	Default Service Product Options	To what extent is default service designed to provide a substitute for the choices provided in a competitive retail market?
C.3	Default Service Rate Mechanism	How frequently is the default rate adjusted to reflect the cost of service in the wholesale market?

No.	Element	Key Question
C.4	Default Service Resource Portfolio	Does the default service provider hedge resources or match the term of the resource contracts to the term of the default service?
C.5	Default Service Switching Options	Are consumers restricted in switching away from default service?
C.6	Default Service Cost Allocation	Does the default service rate reflect the cost of service?
C.7	Stranded Cost Recovery	How is stranded costs recovery treated?
C.8	Nondiscriminatory Public Purpose Programs	Are public purpose programs – such as resource portfolio standards and conservation program requirements – applied fairly to all retailers?

Facilitation of Choice of Retailer

Facilitation of choice of retailer refers to the market structures, infrastructure and programs that support retail electricity choice. First, the jurisdiction's policies with regard to electric distribution market structure and code of conduct are examined. Next we consider customer education, retailer access to customer information, and uniformity of transaction standards. Finally, this topic includes billing protocols, access to meter information, and advanced metering infrastructure. These elements appear as D.1 to D.9 in this report.

Table 4: Elements for Facilitation of Choice of Retailer

No.	Element	Key Question
D.1	Distribution Utility Structure	Is the regulated distribution service function separate from competitive services?
D.2	Competitive Safeguards	Do distribution utilities operate under a code of conduct that governs relations with affiliates and is that code consistently enforced?
D.3	Consumer Education & Awareness	Is there a program to educate consumers about retail choice and to measure the results?
D.4	Access to Residential Customer Information	Do qualified retailers have easy access to basic customer information?
D.5	Uniformity of Standards	Does the jurisdiction apply uniform standards for the operation of competitive retail markets?
D.6	Transaction Standards	Does the jurisdiction require the use of a standard electronic data exchange for business transactions?
D.7	Billing Protocols	Does the jurisdiction treat billing in a manner that inhibits retail choice?
D.8	Access to Metering Information	Do retailers have on-demand access to real-time metered data regarding customer usage?
D.9	Advanced Metering Infrastructure	Has the jurisdiction invested in advanced metering and communications?

The Weighting of the Residential Elements

Each element is assigned a weight that is used to calculate a weighted average score for each jurisdiction. All 23 weights total to 100 percent. There could be significant discussion regarding the most important element and the corresponding weight. We have determined that with a large number of elements, the specific weights are less important than if there were just a few data points. Nevertheless, a transparent methodology allows the reader to see the relative weights and therefore the relative importance of each element.

The following table presents the weights used in the 2007 and 2008 residential ABACCUS reports.

The four general topics are weighted as follows:

- Status of Retail Choice: 15%
- Wholesale competition: 8%
- Default Service: 52%
- Facilitation of Choice of Retailer: 25%

Table 5: Residential Methodology Weighting

No.	*Element*	*Weight*
A.1	Eligibility of Residential Customers for Retail Electric Choice	4%
A.2	Number of Retailers Making Offers to Residential Customers	4%
A.3	Residential Customers Receiving Competitive Rate	4%
A.4	Market Switching Measure	3%
B.1	Wholesale Market Competition	6%
B.2	Responsive Demand	2%
C.1	Default Service Supplier	8%
C.2	Default Service Product Options	6%
C.3	Default Service Rate Mechanism	12%
C.4	Default Service Resource Portfolio	10%
C.5	Default Service Switching Options	6%
C.6	Default Service Cost Allocation	6%
C.7	Stranded Cost Recovery	3%
C.8	Nondiscriminatory Public Purpose Programs	1%
D.1	Distribution Utility Structure	4%
D.2	Competitive Safeguards	3%
D.3	Consumer Education & Awareness	2%
D.4	Access to Residential Customer Information	3%
D.5	Uniformity of Standards	3%
D.6	Transaction Standards	2%
D.7	Billing Protocols	4%
D.8	Access to Metering Information	2%
D.9	Advanced Metering Infrastructure	2%
	Total	100%

Commercial and Industrial Methodology

In order to understand what is happening in these jurisdictions, we have adopted a methodology for the commercial and industrial customer ABACCUS that gathers facts on 28 issues. The methodology is organized into four general topics: A. Status of Retail Choice, B. Wholesale Competition, C. Default Service, and D. Facilitation of Choice of Retailer.

We rely on a combination of fact checking and interviews within each jurisdiction. This involves a review of source materials on state and utility Web sites and telephone interviews with staff members at the regulatory commission with responsibility for the implementation and tracking of retail competition.

Status of Retail Choice

ABACCUS first takes a snapshot of each state to determine the percentage of commercial and industrial customers eligible to participate in retail electricity choice. Next, ABACCUS considers the number of active retailers making offers in the state and the percentage of eligible customers on a competitive price. These two measures are outcomes of a successful program and result from other appropriate actions by the state or province. ABACCUS also considers the extent to which the jurisdiction tracks and publishes statistics relating to switching. These elements are labeled A.1 to A.6 in this report.

Table 6: Elements for Status of Retail Choice

No.	C&I Element	Key Question
A.1	Eligibility of C&I Customer Load (%)	What percentage of commercial and industrial load in the state/province is eligible for retail electricity choice?
A.2	Number of Retailers Making Large C&I Offers (#)	How many retailers are active in making offers to large C&I customers?
A.3	Number of Retailers Making Medium C&I Offers (#)	How many retailers are active making offers to medium C&I customers?
A.4	Large C&I Customer Load Switching (%)	What percentage of eligible large C&I load has switched?
A.5	Medium C&I Customer Load Switching (%)	What percentage of eligible medium C&I load has switched?
A.6	Publish Market Switching, Migration or Choice Statistics	Does the state/province measure and regularly publish market switching or migration statistics?

Wholesale Competition

Wholesale or bulk market competition can facilitate robust retail electricity choice. Policies to support fully integrated electricity markets include the adoption of advanced market policies and the integration of retail customers into demand response activities and the provision of ancillary services. Retail customers who are allowed to participate in wholesale markets make choices that are good for their individual operations (lowering of costs) and good for the network (participation in markets for ancillary services such as responsive reserves, reduction in price spikes, and reduction in congestion). These elements are labeled B.1 to B.5 in this report.

Table 7: Elements for Wholesale Competition

No.	C&I Element	Key Question
B.1	RTO/ISO Existence	Is the jurisdiction within an organized wholesale market (RTO or ISO)?

No.	C&I Element	Key Question
B.2	Market Monitor	Is the market monitoring functioning in an independent and transparent manner?
B.3	Reliability Demand Response	Can C&I loads participate in markets for capacity/reliability? Does the participation of demand-side resources occur on a level playing field with generating resources?
B.4	Economic Demand Response	Can C&I loads participate in day-ahead and real time markets for energy?
B.5	Ancillary Services	Can C&I loads participate in markets for operating reserves and responsive reserves?

Default Service

Default service refers to the basic or standard rates that are established and periodically adjusted by regulators. Default service has been established as a mechanism to ease the transition from regulated tariffs to competitive electricity prices. The design and implementation of default service is often the most significant issue affecting the success of retail choice. If regulators are determined to design default service so as to attempt to address all consumer needs, or price service below market cost, or bundle risks and spread the risk premium to all consumers, then it is unlikely that retail electricity providers will enter the market. That is, default service designed to mimic fully-regulated service can undermine retail competition.

Provider of last resort (POLR) service refers to "safety net" rates for consumers whose supplier goes out of business or for new consumers who do not select a provider.

The elements in this topic include: which company provides default service, how default service is designed, how frequently default service is adjusted to wholesale market prices, what resources are used to supply default service, whether the supplier hedges resources, whether restrictions are placed on customers who wish to leave default service, and whether the default service rate tracks the cost of service. These elements are labeled C.1 to C.8 in this report.

Table 8: Elements for Default Service

No.	C&I Element	Key Question
C.1	Default Service for Large C&I	Is a regulated default service rate offered to large C&I loads as of July 1, 2009? What, if any, size limits have been set? (I.e., above which large customers must contract for market prices.)
C.2	Default Service Cost Tracking Large C&I	With what frequency is large C&I load default service rate realigned to wholesale market costs? (Hourly? Monthly? Etc.)
C.3	Default Service Provider Medium C&I	What type of company (utility; affiliate; retailer) provides default service to medium C&I load (as of July 1, 2009)?
C.4	Default Service Cost Tracking Medium C&I	With what frequency is medium C&I load default service rate realigned to wholesale market costs? (Monthly? Annually? Etc.)
C.5	Default Service Product Options Medium C&I	Is the default service rate for medium C&I load a generic or "plain vanilla" offering? Or are there variations that could be provided in the market?

No.	C&I Element	Key Question
C.6	Default Service Cost Allocation Medium C&I	Is the default service rate for medium C&I load discounted to include only some costs? Is it capped? Does it reflect the full power costs?
C.7	Default Service Resource Hedging Medium C&I	Is the default service provider allowed to hedge the resource portfolio? Of do the terms of the resource contracts match the terms of the default service?
C.8	Default Service Switching Options Medium C&I	Are consumers restricted in switching away from default service?

Facilitation of Choice of Retailer

Facilitation of choice of retailer refers to the market structures, infrastructure and programs that support retail electricity choice. First, the jurisdiction's policies with regard to electric distribution market structure, functions regulated and types of service provided. We consider the code of conduct and administration of switching. Next we consider uniformity of transaction standards, treatment of distributed generation and ownership of metering information. These elements appear as D.1 to D.9 in this report.

Table 9: Elements for Facilitation of Choice of Retailer

No.	C&I Element	Key Question
D.1	Electric Distribution Utility Structure	Does the jurisdiction have vertically-integrated, functionally separated, or wires-only electric utilities?
D.2	Electric Distribution Utility Regulation	Are the electric distribution utility functions (wires) regulated and appropriately separated from the competitive market functions (the customer premises services)?
D.3	Electric Distribution Utility Types of Services	What types of services are provided by the electric distribution utility?
D.4	Competitive Safeguards	Do the electric distribution utilities operate under a code of conduct that governs relations among affiliates and is that code consistently enforced?
D.5	Administration of Switching	Does a central, fully-independent organization handle all customer switching requests?
D.6	Uniformity of Standards	Does the jurisdiction apply uniform standards for the operation of competitive retail markets?
D.7	Transaction Standards	Does the jurisdiction require the use of a standard electronic data exchange (EDI) for business transactions?
D.8	On-site Generation Alternatives	Do C&I customers have interconnection and distribution system access that facilitates the use of DG as an alternative?
D.9	Ownership of Metered Information	Who owns the customer usage data?

The Weighting of the C&I Elements

Each element is assigned a weight that is used to calculate a weighted average score for each jurisdiction. All 28 weights total to 100 percent. With a large number of elements, the specific weight

assigned to each element is less important than if there were just a few data points. Nevertheless, a transparent methodology allows the reader to see the relative weights and therefore the relative importance of each element.

The following table presents the weights used in 2009 Commercial and Industrial ABACCUS report.

The four general topics are weighted as follows:

- Status of Retail Choice: 25%
- Wholesale competition: 16%
- Default Service: 32%
- Facilitation of Choice of Retailer: 27%

Table 10: Commercial and Industrial Consumer Methodology Weighting

No.	*Element*	*Weight*
A.1	Eligibility of C&I Customer Load (%)	3%
A.2	Number of Retailers Making Large C&I Offers (#)	4%
A.3	Number of Retailers Making Medium C&I Offers (#)	4%
A.4	Large C&I Customer Load Switching (%)	6%
A.5	Medium C&I Customer Load Switching (%)	6%
A.6	Publish Market Switching, Migration or Choice Statistics	2%
B.1	RTO/ISO Existence	5%
B.2	Market Monitor	3%
B.3	Reliability Demand Response	3%
B.4	Economic Demand Response	3%
B.5	Ancillary Services	2%
C.1	Default Service for Large C&I	4%
C.2	Default Service Cost Tracking Large C&I	4%
C.3	Default Service Provider Medium C&I	4%
C.4	Default Service Cost Tracking Medium C&I	4%
C.5	Default Service Product Options Medium C&I	4%
C.6	Default Service Cost Allocation Medium C&I	4%
C.7	Default Service Resource Hedging Medium C&I	4%
C.8	Default Service Switching Options Medium C&I	4%
D.1	Electric Distribution Utility Structure	3%
D.2	Electric Distribution Utility Regulation	3%
D.3	Electric Distribution Utility Types of Services	3%
D.4	Competitive Safeguards	3%
D.5	Administration of Switching	3%
D.6	Uniformity of Standards	3%
D.7	Transaction Standards	3%
D.8	On-site Generation Alternatives	3%
D.9	Ownership of Metered Information	3%
	Total	100%

Volume II Appendices

Volume II describes restructuring in each state or province and provides details of the methodology.

Appendix E – Restructuring in the US States and Canadian Provinces

A state-by-state description provides an overview of the past ten to twelve years in each state, including the major legislation and commission decisions that determined the structure of retail electricity competition. A table presents the number of electricity suppliers in the residential and C&I markets. A table presents recent switching statistics at the state level and, if available, by utility service area.

Appendix F – Residential ABACCUS Methodology (detail)

The Residential Methodology describes each element and provides each option within each element. The scoring of each option is set forth in a table, and the relationship between the option and retail market success is described.

Appendix G – Commercial and Industrial ABACCUS Methodology (detail)

The Commercial and Industrial Methodology describes each element and provides each option within each element. The scoring of each option is set forth in a table, and the relationship between the option and retail market success is described.