

Annual

Baseline

Assessment of

Choice in

Canada and the

United

States



**ABACCUS: An Assessment of
Restructured Electricity Markets**

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Contact

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Executive Summary

The most successful residential electricity markets in North America continue to develop with a growing selection of well-differentiated electricity products and services. At least four standard types of residential products – month-to-month prices, fixed prices, indexed prices and green power – are available at various price points and contract durations that customers prefer. Residential consumers also consider non-commodity offerings bundled with electric service for such things as appliance maintenance, in-home energy management devices, mobile phone applications, on-site renewable resource buy-back contracts, curtailment discounts, prepaid service, etc. It is too soon to predict what the various segments of residential consumers will prefer in the future, or even what those segments will be. Entrepreneurs listen to and address consumer preferences, and this will lead to the development of even more innovative product and service packages.

Similarly, commercial and industrial (C&I) consumers have benefited from the introduction of retail electricity restructuring because they readily choose among the options available to them to manage electricity purchases. Load switching from default service to a competitive rate remains high in a dozen states. C&I customers have signed favorable power contracts, benefited from price reductions, and benefited from new products and services that help them manage their risk exposure. C&I consumers like the ability to procure energy to match their fiscal budget cycle, or reduce cost risk, or find favorable credit terms. These are among the many negotiated options available. C&I consumers want control and many want to develop a partnership with a supplier. These competitive differentiators are as important as absolute price to many C&I consumers.

There is a growing recognition that the goal of electricity restructuring ought to be individual consumer choice and the associated innovation, technological change, and product and service differentiation. By focusing on policies that promote individual consumer choice in electric service, the jurisdictions of North America can facilitate the rapid development of retail electricity markets. Individual consumer choice empowers each of us with the ability to leave our legacy provider and to select a new energy supplier. Advanced metering infrastructure gives consumers real-time information and places them on a more equal footing with suppliers.

Against the backdrop of a slow economy, energy prices have gone down, helping to provide consumers with relief. Competitive energy suppliers, unhampered by administrative processes and with market pressures to motivate them in the most competitive states, have quickly reflected these price changes in their offerings. 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 important factors. Low price remains very important, and the ability to select among different offerings gives individual consumers new types of control.

Nearly 15 years have passed since the initial US states launched pilot programs to offer retail electricity choice of power supplier to energy consumers. While the participation of large energy consumers has

“Value is mainly about price, but price is not the whole story. Customer choice, renewable resources and demand response are other valuable features of a competitive electricity market.”

*Chairman Barry Smitherman
Public Utility Commission of Texas*

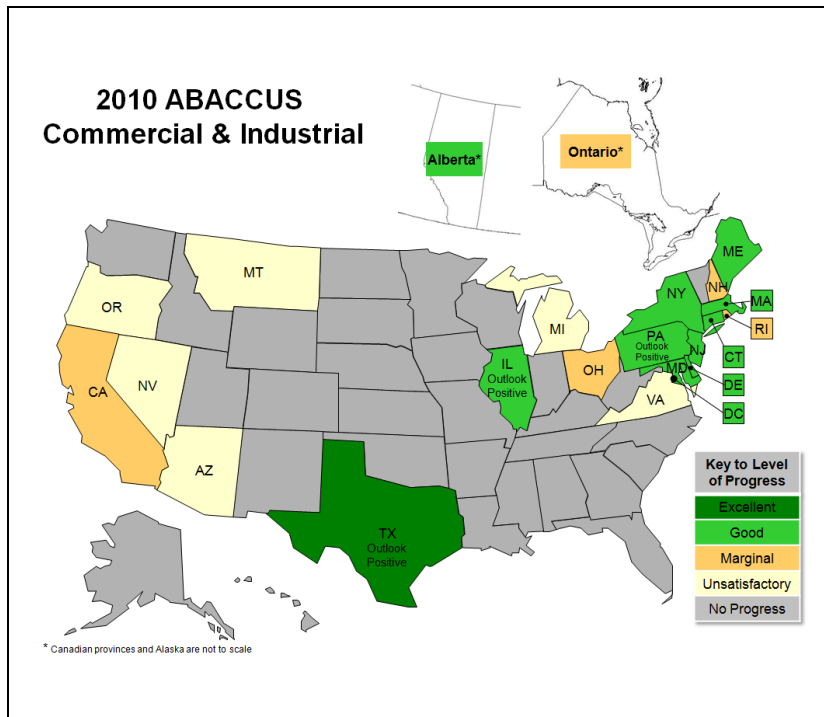
been excellent and widely lauded as a success, the participation of mass market consumers has been mixed, and the public perception of restructured electricity markets has been clouded by the problems in a few jurisdictions. Some observers are very critical of the ability of residential consumers to benefit from retail electricity choice in some states, citing increases in average prices and low market entry by competitive energy suppliers. However, evidence from the most successful residential markets points to much lower prices and greater product and service differentiation.

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 or every five minutes 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.

Electricity consumers are individuals. Their preferences differ and competitive retail markets are the best way to satisfy the diverse needs and wants of individual consumers.

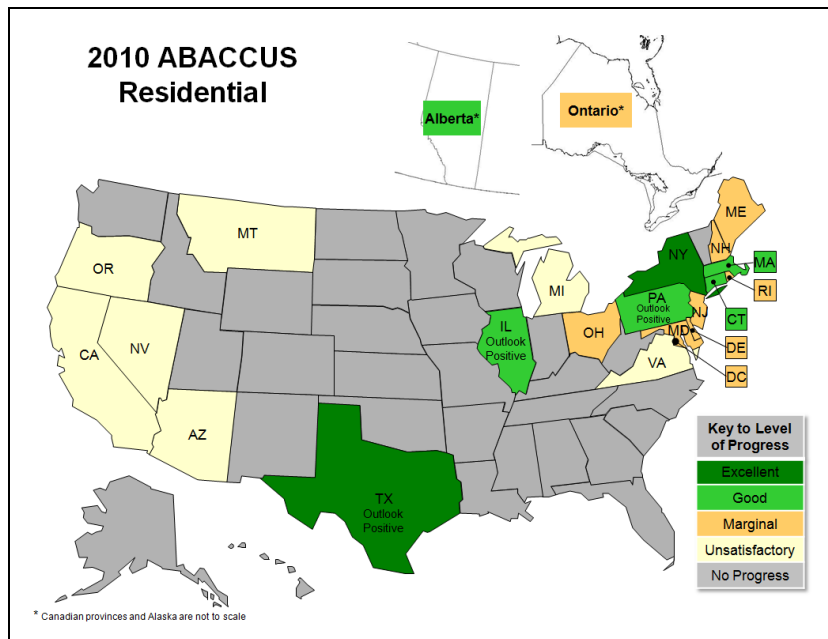
The *Annual Baseline Assessment of Choice in Canada and the US (ABACCUS)* gauges progress in the implementation of retail electricity choice. The ABACCUS is a report card on the electric industry's achievements in electric industry restructuring. ABACCUS assesses many attributes of service. In addition 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 electricity 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 programs, time-of-use pricing and prepaid service. Additionally, as advanced metering and other smart grid infrastructure continues taking off, residential markets are beginning to emerge. In the future, home area networks, electric vehicles and control devices will be coordinated through 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 electricity choice. Texas has achieved about 52% switching among eligible residential consumers (87% have made an observable choice). Seven additional jurisdictions also have nine percent or more of residential consumers who have left the incumbent provider (departed regulated default service).



Summary and Recommendations

Electricity consumers are individuals. Their preferences differ and competitive retail electricity markets are the best way to satisfy the diverse needs and wants of individual consumers. The old "one-size-fits-all" administered market does not best serve consumers, economic development, the environment or any other of a number of public policy goals. 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 individual consumer choice in the electric industry is spurring innovation and efficiency, and it is resulting in an efficient allocation of scarce resources.

Competitive suppliers in Texas offer 250 products to residential consumers (up from 120 last year) according to the state's "Power to Choose" website.

A growing number of consumers consider themselves environmentalists, and the competitive marketplace is an arena where their preferences can be expressed by choosing green energy. Other consumers focus on minimizing their energy bills. Many seek low bills, but eagerly pay a small premium to lock in a price for one or more years. Some seek and are willing to pay a premium for high levels of

reliability and security. Still others value the collection and analysis of energy data and technologies and services which empower their energy management activities. Some consumers try to achieve many of these objectives at once.

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 share those lessons with others. The following recommendations are supported by a consensus among the project sponsors, but do not necessarily represent the position of the ABACCUS Advisory Board, its individual members, or their respective companies or regulatory agencies.¹

Electricity Restructuring Goal

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

Market Eligibility

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

Aggregation

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

Wholesale Markets

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

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

Default Service

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

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

Recommendation #7: Design a default service product that is plain vanilla and easy to understand and meets the basic needs of the consumer. Do not attempt to mimic the

¹ Please see Appendix A for more information about the 2010 ABACCUS Advisory Board and its members, and see Appendix B for more information about the ABACCUS sponsors.

variety, scope or breadth of rates or services that are provided by energy suppliers to individual consumers.

Recommendation #8: If supply procurement for default service is done through competitive wholesale procurements, then multiple, short-term auctions are preferred 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 Choice

Recommendation #9: 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 #10: Establish protocols and standards for access to basic consumer information including commercial practices and electronic data exchange.

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

Public Policy Goals

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

“Customer choice in electricity has benefitted Pennsylvanians in a variety of ways. A well-structured competitive electric market not only results in reasonable rates, but also creates clean energy jobs, promotes technological innovation and infrastructure improvements, and encourages energy efficiency measures, such as the integration of renewable resources into our nation’s electricity grid.”

*Commissioner Robert Powelson
Pennsylvania Public Utility Commission*

Introduction

Price and quality comparisons are an essential feature of a competitive market. Comparisons help us to make sense of our complex world. We rely on standards, ratings and assessments to make decisions about everything from restaurant and hotels to appliances, cars and local services. A similar process occurs when we assess public and quasi-public services, including public schools, police and fire service, and roadway maintenance. In every case – restaurants, hotels, appliances, cars, schools, police/fire and roads – we seek better service at a lower cost. Competitive markets and government services perform well when consumers have information about both price and quality.

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

North America has an astounding variety of ownership arrangements and electric industry market structures. In addition to restructured electric markets that offer a level of consumer choice and competition, there are state-regulated investor-owned utilities, government-owned municipal utilities, government power authorities, and member-owned electric cooperatives. These utilities operate side-by-side and opinions vary about which ownership arrangement or market structure is best. The focus of ABACCUS is how to compare the jurisdictions that offer direct retail access to energy suppliers.

Comparing alternative industry structures is not easy. Even after the facts are gathered, there remain a variety of perspectives about how to interpret these data. In this regard, assessing the electric industry is no easier than assessing complex service such as public education or health care.

Different people value things differently! That simple statement provides one reason that market transactions are one efficient mechanism for resource allocation.

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* and therefore reach different conclusions when they review the same data.

What do people want, and therefore what do they value in a market? Some people want the electric commodity delivered at lowest cost, while others place a premium on the reliability of service, quality of power, or the lowest emissions. Others want a blend of these factors. Just when you think you have solved a power reliability and quality issue (e.g., maintain both at a high level), some cost-conscious consumers complain about a rate increase. Those who care about the source of power generation or fuel type prefer renewable resources rather than reliability and quality. A few prefer independence and would like to be off the grid, or to have the ability to operate off the grid when there is a reliability problem. Each value-based preference imposes costs on other people if it is forced on other people. A system designed to satisfy one goal will fall short on another.

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Consumer choice mitigates some problems by offering a diverse set of options that meet people’s diverse preferences. Rather than a one-size-fits-all approach or a government-mandated outcome, a competitive market is comprised of companies that offer a range of products and services. Consumers choose the ones that best meet their needs. There are still compromises to be made with respect to the regulated components of the system; however, the less we mandate, the lower the shared costs.

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 homeowners and businesses, the value of electric service is properly measured in terms of the value provided by the electricity-consuming “end-use devices.” There are many attributes of service – reliability, power quality, fuel source – that matter to consumers.

In 2009 we conducted a poll of energy professionals.² We asked energy professionals to select their first, second and third choices from a list of seven options in response to the questions, “What are the goals of a fully competitive retail energy market? Which outcomes are the most important?” Next we asked the energy professionals, “What are the three most effective ways to measure whether there is a fully competitive market?”

Chart 1: Restructuring Goals

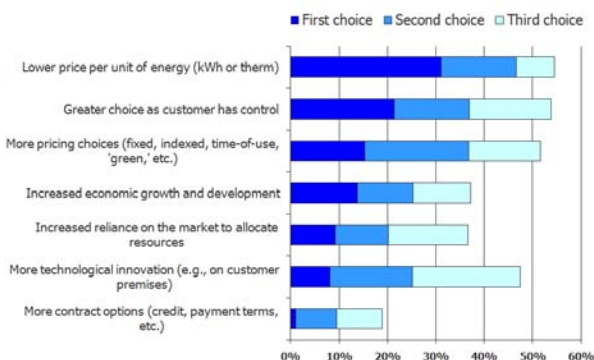
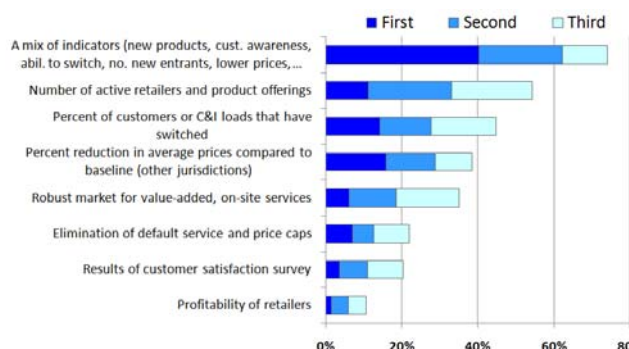


Chart 2: Measurement



With respect to the goals of restructuring, a large numbers of respondents gave high rankings to “greater choice as customer has control,” “more pricing choices,” and “more technological innovation” in addition to “lower price.” All seven listed options received a discernable level of support and other options were written in (e.g., “conservation” and “demand response”). While “lower price per unit of energy” was frequently selected, it was not universally considered the goal of fully competitive retail energy markets.

In the next question, a majority responded that “a mix of indicators” would be appropriate to measure whether there is a fully competitive market. Forty percent list “a mix of indicators” as their first choice (out of eight options listed). If you add first, second and third choices, then “percent reduction in average prices” drops to fourth position overall. These data reinforce the finding that people understand that just as there are many goals of full competition, and there are many ways to measure success. A

² “2009 Electric Industry Restructuring Survey,” conducted online by Distributed Energy Financial Group LLC, September 2009.

single metric misses the point. These results support the use of many indicators to assess electricity markets.

“Customer choice in electricity has benefitted Pennsylvanians in a variety of ways. A well-structured competitive electric market not only results in reasonable rates, but also creates clean energy jobs, promotes technological innovation and infrastructure improvements, and encourages energy efficiency measures, such as the integration of renewable resources into our nation’s electricity grid.”

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Commercial & Industrial ABACCUS Findings

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

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 Retail Energy Suppliers

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 retail energy suppliers. The number of retail energy suppliers in jurisdictions with active C&I markets continues to rise.

Table 1: Number of Retail Suppliers Making Offers to Large C&I Customers*

| | |
|----------------------|----|
| Texas | 60 |
| Maryland | 58 |
| New York | 55 |
| Massachusetts | 44 |
| Delaware | 38 |
| Pennsylvania | 33 |
| New Jersey | 32 |
| Maine | 27 |
| Illinois | 26 |
| Michigan | 24 |
| District of Columbia | 17 |
| California | 13 |
| Connecticut | 12 |
| Ohio | 11 |
| New Hampshire | 8 |
| Alberta | 8 |
| Ontario | 8 |
| Oregon | 5 |

** A few jurisdictions make no distinction between licensed, registered or 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 customer operations
- Prices that change hourly so the consumer can assume risk if that serves its business
- Customized billing and credit terms
- Blended products to provide a portfolio of supply to reduce risk
- 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
- Retail supplier-provided services for energy efficiency, and/or energy management devices, usage monitoring and optimization of energy use for their production processes
- Combined heat and power production and contracts for on-site power development
- Demand response projects if the business operations allow it

Entrepreneurship and innovation in product offerings is extremely valuable and is a hallmark of competitive markets.

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 retail energy suppliers, sophistication of the large customers and customized contract offerings.

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

| | |
|----------------------|-------|
| Maine | 94.6% |
| Illinois | 94.1% |
| Maryland | 92.8% |
| Massachusetts | 90.1% |
| Connecticut | 88.1% |
| New Jersey | 85.1% |
| Alberta | 82.0% |
| District of Columbia | 80.2% |
| Texas | 77.4% |
| New York | 72.5% |
| Delaware | 68.6% |

Table 3: Jurisdictions with Greater than 30% Medium C&I Customer Switching*

| | |
|----------------------|-------|
| District of Columbia | 80.2% |
| Texas | 79.1% |
| Connecticut | 77.8% |
| Maryland | 69.2% |
| Delaware | 68.6% |
| Illinois | 59.8% |
| Massachusetts | 59.6% |
| New York | 56.9% |
| Maine | 50.1% |
| Alberta | 46.6% |
| Ohio | 46.5% |
| New Jersey | 39.1% |
| Pennsylvania | 30.0% |

** 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. In some instances the size threshold is based on peak usage and in other instances it is based on energy usage. A few jurisdictions place all nonresidential consumers in one group for reporting purposes.*

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.

Nearly fifteen years 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 retail energy suppliers to offer their products and services. In some instances the design of the default service product has not supported the introduction of competition.

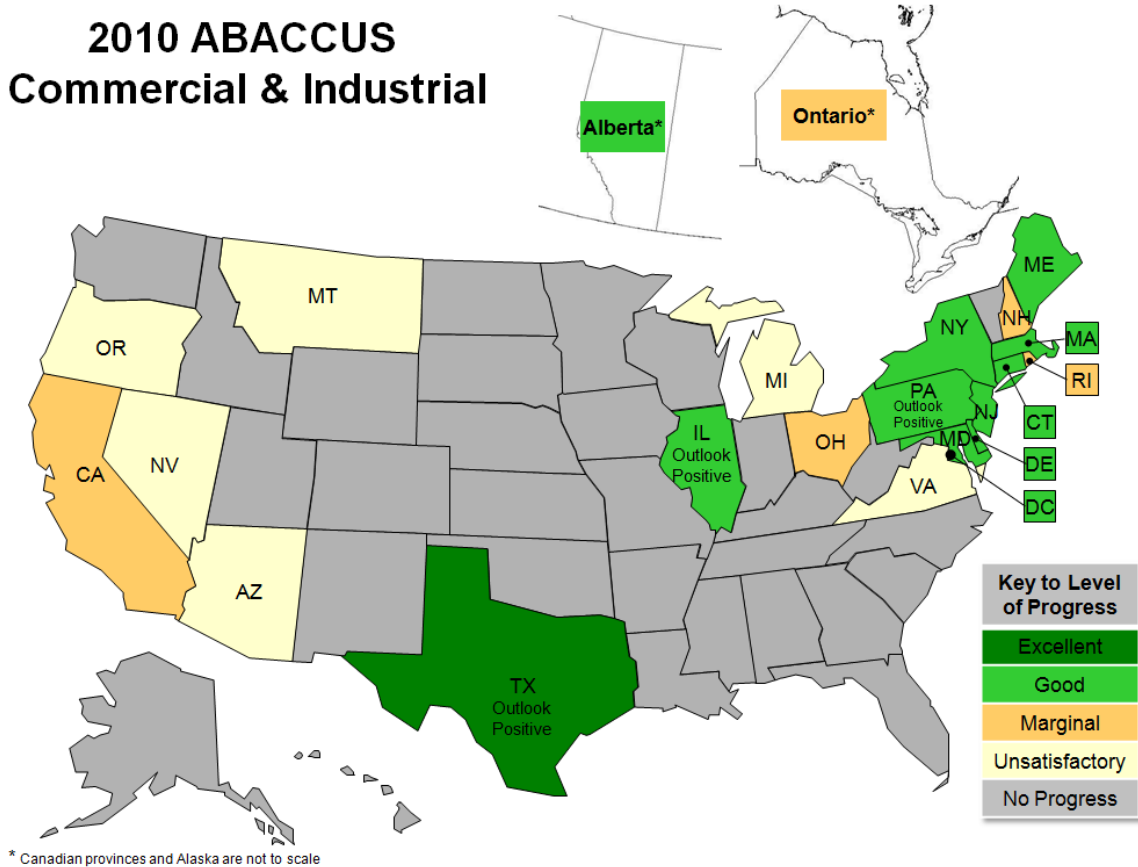
Table 4: 2010 Commercial and Industrial ABACCUS Scores and Rank

| Jurisdiction | 2010 Score† | 2010 Rank | 2010 Assessment |
|----------------------|--------------------|------------------|------------------------|
| Texas | 85 | 1 | Excellent |
| New York | 64 | 2 | Good |
| Illinois | 63 | 3 | Good |
| Maryland | 61 | 4 | Good |
| Connecticut | 55 | 5 | Good |
| Pennsylvania | 55 | 6 | Good |
| Maine | 55 | 7 | Good |
| Massachusetts | 54 | 8 | Good |
| New Jersey | 55 | 9 | Good |
| Alberta | 55 | 10 | Good |
| District of Columbia | 52 | 11 | Good |
| Ohio* | 50 | 12 | Marginal |
| Delaware | 46 | 13 | Good |
| California* | 45 | 14 | Marginal |
| Ontario* | 40 | 15 | Marginal |
| New Hampshire | 37 | 16 | Marginal |
| Rhode Island | 32 | 17 | Marginal |
| Michigan* | NA | 18 | Unsatisfactory |
| Virginia* | NA | 19 | Unsatisfactory |
| Oregon* | NA | 20 | Unsatisfactory |
| Arizona* | NA | 21 | Unsatisfactory |
| Montana* | NA | 22 | Unsatisfactory |
| Nevada* | NA | 23 | Unsatisfactory |

† Scoring is very tough and there is no “grading on a curve.” No jurisdiction will likely 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.

* States receive a qualitative assessment that may appear 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: 2010 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 electricity 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 energy suppliers 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 retail energy suppliers.

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. 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

The electricity choices for individual mass market consumers have never been greater in North America. Infrastructure investments in advanced meters and the smart grid are beginning to bear fruit. The choices available to residential consumers include green power, month-to-month rates, fixed-price contracts for terms of up to five years, indexed prices, prepay service, and a variety of bundled service options that include maintenance of major appliances, in-home energy management devices, self-generation options, and new technologies.

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 and policy making. Later, rising input fuel prices resulted in higher market prices for electricity. These market prices generally increased the cost of residential electricity service. Further, states have adopted policies that limit or discourage the participation of retail energy suppliers. As a result, the participation of residential customers in retail choice programs declined in several states and has only recently rebounded. 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.

Number of Retail Energy Suppliers

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 retail energy suppliers' normal market penetration efforts.

Table 5: Number of Retail Suppliers Making Offers to Residential Customers*

| | |
|----------------------|----|
| Texas | 37 |
| New York | 27 |
| Maryland | 16 |
| Pennsylvania | 16 |
| Connecticut | 12 |
| New Jersey | 11 |
| District of Columbia | 8 |
| Ontario | 8 |
| New Hampshire | 7 |
| Alberta | 5 |
| Maine | 4 |
| Massachusetts | 4 |

** A few jurisdictions make no distinction between licensed, registered or 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.

Table 6: Number of Products Available to Residential Customers*

| | |
|--------------|-----|
| Texas | 255 |
| New York | 52 |
| Pennsylvania | 34 |
| Connecticut | 30 |
| Maryland | 16 |
| Alberta | 15 |
| New Jersey | 11 |

** In several jurisdictions it is quite simple for consumers to compare offers using simple Web-based tools. In other places, a consumer must call each supplier to determine what pricing and products are available.*

The variety of market offerings is quite different in each jurisdiction. In those states with just a few retail energy suppliers, each may offer one or two products. However, in states with many retail energy suppliers, customers have many diverse offers to choose from. In at least six jurisdictions – Texas, Connecticut, New York, Pennsylvania, Alberta and Ontario – retail energy suppliers offer at least three of the following four categories or types of products:

1) month-to-month products, 2) fixed-price products (minimum six-month term), 3) indexed price products, and 4) clean/green products. The number of products is growing rapidly in places where residential choice has been successful. In Houston, Texas, for example, there were approximately 250 products offered to residential consumer (up from 120 last year) by 37 retail suppliers (up from 30 last year) on the state's "Power to Choose" website as of early November 2010. These included products for terms of one month to five years, fixed, variable and indexed rate options, various levels of renewable energy (zero to 100%), and prepay service options.

Competitive suppliers in Texas offer 250 products to residential consumers (up from 120 last year) according to the state's "Power to Choose" website.

Residential Switching Statistics

The rate of residential customer switching off default service is modest 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 currently has most of its switching through aggregation too. Texas has experienced strong residential customer choice without significant aggregation activity, with 52% of eligible residential customers switching to non-incumbent providers. Furthermore, the 48% of residential consumers who remain with an incumbent retail energy supplier are no longer on a fully-regulated default service tariff. Texas’ “price-to-beat” default service ended nearly four years ago, leaving virtually all Texans (the eligible 64% of the state) on competitive prices.

Table 7: Jurisdictions with Greater than 9% Residential Customer Switching*

| | |
|---------------|-------|
| Texas | 87.1% |
| Connecticut | 32.1% |
| Alberta | 27.2% |
| Ohio | 24.4% |
| New York | 17.9% |
| Massachusetts | 12.2% |
| Pennsylvania | 10.0% |
| Maryland | 9.6% |

** The jurisdictions use different definitions and provide updates at infrequent intervals; therefore, these data are not strictly comparable. These figures include customers who are part of an aggregation program.*

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-six important dimensions of service. The facts in each state were assessed, scored, weighted and summed, and states were ranked accordingly.

Table 8: Residential ABACCUS Scores and Rank

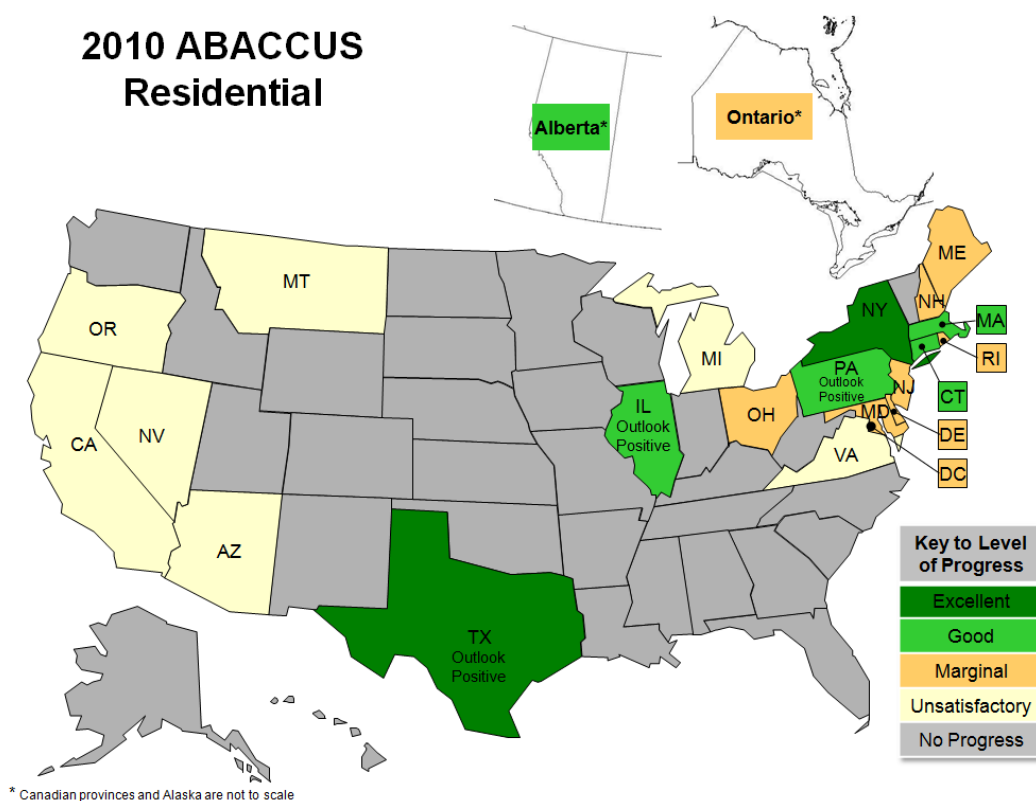
| Jurisdiction | 2010 Score [†] | 2010 Rank | 2010 Assessment |
|----------------------|-------------------------|-----------|-----------------|
| Texas | 86 | 1 | Excellent |
| New York | 63 | 2 | Excellent |
| Alberta | 62 | 3 | Good |
| Pennsylvania | 58 | 4 | Good |
| Maryland* | 54 | 5 | Marginal |
| Massachusetts | 49 | 6 | Good |
| Ohio* | 48 | 7 | Marginal |
| Illinois | 47 | 8 | Good |
| Maine* | 46 | 9 | Marginal |
| Ontario* | 46 | 10 | Marginal |
| New Jersey* | 45 | 11 | Marginal |
| Connecticut | 45 | 12 | Good |
| District of Columbia | 41 | 13 | Marginal |
| New Hampshire | 36 | 14 | Marginal |
| Rhode Island | 32 | 15 | Marginal |
| Delaware | 32 | 16 | Marginal |
| Michigan* | NA | 17 | Unsatisfactory |
| California* | NA | 18 | Unsatisfactory |
| Montana* | NA | 19 | Unsatisfactory |
| Virginia* | NA | 20 | Unsatisfactory |
| Oregon* | NA | 21 | Unsatisfactory |
| Nevada* | NA | 22 | Unsatisfactory |
| Arizona* | NA | 23 | Unsatisfactory |

† Scoring is very tough and there is no “grading on a curve.” No jurisdiction will likely 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.

** States receive a qualitative assessment that may appear 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: 2010 Assessment – Residential



Issues

The ABACCUS Advisory Board met three times in 2010 and discussed a variety of important issues. Neither the following list nor the discussion that follows is intended to be exhaustive. A fuller understanding of the goals of electricity restructuring is evident as we gain a deeper appreciation of the significant issues.

- **Choice Not Price.** Although average price is a traditional metric of the electric industry, there is a growing recognition that individual consumer choice can provide the basis for long-term market transformation.
- **Aggregation.** Aggregation can bring many of the benefits of bulk power markets to blocks of consumers; however, some forms of aggregation may be viewed as a transition mechanism.
- **Consumer Usage Data.** Advanced meters and communications bring opportunities for easy access to great volumes of data. Jurisdictions need well-defined rules to lend certainty to data accessibility, consumer privacy and data security.
- **Public Policy Goals.** States continue to pursue public policy goals relating to energy efficiency, renewable resource development, resource mix and the adequacy of capacity. Jurisdictions need to seek and apply non-discriminatory, market-based solutions.

In addition, the design and implementation of default service (basic or standard service) remains a significant issue for energy suppliers and other market stakeholders:

- **Default Service.** Default service ought to be designed as a transitional service that meets a residential consumer’s basic needs while that consumer gains knowledge of, and confidence in, the individual choices available in the marketplace.

Choice Not Price

Issue. Are average electricity prices a good indicator of success in a restructured electricity market?

Summary. Some people believe that average electricity prices are the most important or even the only measure of success for electricity restructuring. Other people advocate that averages are misleading and the goals of restructuring are closely related to individual consumer choice, innovation, technological change and product and service differentiation. These viewpoints reflect contrasting paradigms – one that is aligned with a traditional “one-size-fits-all” regulatory mind set, and another that is more oriented to individual consumer preferences.

Recommendation. The goal of electricity restructuring ought to be individual consumer choice which will result in innovation, technological change, and product and service differentiation. Jurisdictions ought to focus on policies that promote individual choices in electric service. Price will always be important to consumers, but the focus on individual consumer choice allows the definition of low cost to match individual preferences.

Scoring. The ABACCUS methodology does not assess or score electricity price because many unique factors affect prices, making price comparisons challenging at best and misleading at worst. (Note: For transparency, the report appendix provides charts which display average prices as part of the background information provided for each jurisdiction.) ABACCUS tracks the number of energy suppliers, number of product offerings and types of product offerings. In 2010, two elements were added to the residential methodology: “Number of Distinct Offers” and “Categories of Products.” These are proxy measures to assess product differentiation and innovation in the market place. States with a large number of distinct offers score well, as do states with four types of products: (a) month-to-month products, (b) indexed products, (c) fixed price products, and (d) renewable energy products.

Background on Choices and Prices

Average statewide electricity price is often used to compare the performance of electricity markets and criticize electric restructuring. Natural gas price fluctuations tend to affect average retail electricity prices, and volatile prices have been used to criticize states as well.

An average price comparison is fundamentally flawed for at least three reasons:

- It assumes that statewide prices represent restructured prices, when restructured prices may be only part of the statewide average
- It assumes that average electricity prices are the most important or perhaps the only measure of success in the electric market
- It assumes that individuals actually buy the average

An emphasis on average price comparisons reveals a basic misunderstanding of consumer preferences and choice, economic value, entrepreneurship, innovation, technological advancement, and market differentiation. Fully-regulated electric utilities face a variety of risks, and regulatory authorities can spread costs over different time periods, and give assurances on future cost recovery. Energy suppliers face market price volatility and competitive pressures from other energy suppliers.

Some people believe that the goal of electricity restructuring is to lower the average price of the electric commodity. Other people value the ability to choose among various offers, as a means of empowering individuals, and as a way to allow individual consumers to buy into structural changes in the market. The latter group tends to agree that the goal of electric restructuring is meeting individual consumer needs through choice, innovation, technological change, and product and service differentiation.

A simple comparison of the average price of electricity in traditional, fully-regulated electric markets with the average price in competitive markets is not particularly valuable. It is true that average price comparisons are simple to understand and price increases are sure to make a newspaper headline. Both fully-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. People pay electric bills, not electric rates.

The search for the right combination of services and products to meet individual consumer needs is unlikely to come through a fully-regulated model. Regulation is constrained by the outdated concept of focusing on the average cost of a unit of electricity. People who purchase a flashlight battery or recharge a cell phone do not tend to focus on minimizing their cents per kilowatt-hour. (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 provide the best means of achieving enhanced value and reduced cost.

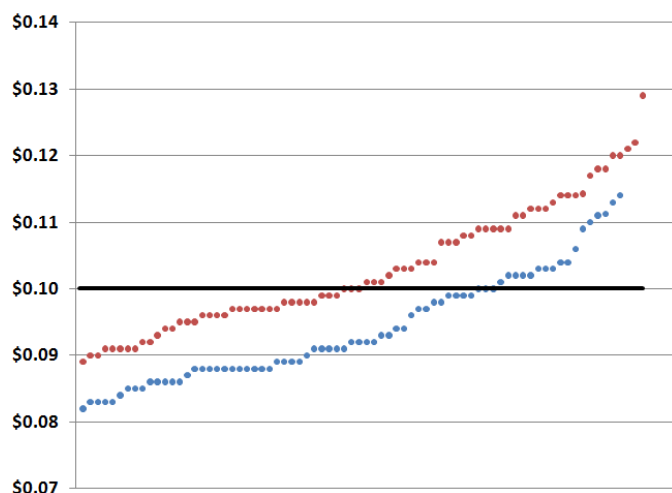
Decades of average price reductions occurred during periods of rapid electrification and supply-side technological change in the early- to mid-twentieth century. This period was marked by companies that constructed larger, lower-cost-per-unit generating plants. This period ended in the 1970s, but a supply-side mindset focused on average costs persists. Unfortunately, too few utilities, regulators and consumers changed their attitudes quickly enough. As a result, prices per unit increased for years.

What choices do residential consumers prefer?

Small consumers traditionally assess the market for electric service by looking at two issues: the price of electricity per kilowatt-hour and the value of the service they receive, with a focus on reliability. Times are changing: small residential consumers are becoming more sophisticated and product offerings are differentiating. In successful restructured electric markets, consumers choose among month-to-month pricing products, indexed pricing products, fixed-price products (three months or longer), renewable energy (green) products, and other offers in the market.

In selecting the lowest cost, some residential consumers may choose a pricing plan that changes every month in order to get the lowest near-term bill. Others may prefer to hedge their bets and lock in a price for a period of a year or longer. In Texas, for example, lowest-offer prices have fallen below seven cents for month-to-month price plans, but there are reasonable choices that lock in a price for 12 months or more.

Chart 3: Residential Price Offers in Texas, Nov. 2010



The chart at the left shows the residential products (as of November 2010) in Houston and Dallas with a 12-month fixed price. In Houston (red), 35 offers are below 10 cents per kilowatt-hour. In Dallas (blue), 53 offers are less than 10 cents per kilowatt-hour. Different consumers have different views of the future. “Best price” for one consumer may be “7 cents per kilowatt-hour next month.” In contrast, “best price” for someone else may be “9 cents per kilowatt-hour for the next 12 months.” Since these two consumers have different risk profiles, their selection of “best” differs.

Many smaller consumers have demonstrated a preference for green power. Increasingly, residential consumers are considering non-commodity offerings bundled with electric service, including air conditioner cycling programs, appliance maintenance contracts, mobile phone apps relating to energy, or in-home energy management devices. Renewable energy options may become more common, with renewable buy-back products (i.e., the purchase of excess rooftop PV or small-scale wind output). Some consumers may prefer time-of-use offerings coupled with smart devices, curtailment opportunities and rate discounts. There is a growing sense that prepay service may be appealing to many consumers, not merely budget-challenged consumers.

The residential energy service market is evolving and it is too soon to know what various segments of consumers will prefer in the future. What we do know is that needs will continue to change and a focus on innovation is consistent with a respect for consumer preferences. A focus on average electricity prices largely assumes that a “one-size-fits-all” approach will be all that people want in the future.

What choices do C&I consumers prefer?

It is generally agreed that large commercial and industrial consumers have benefited from the introduction of retail electricity restructuring. 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, and switching is high in about a dozen states. 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 consumers are comfortable managing risks in this manner. C&I consumers consider a continuum of choices and work with their energy suppliers to select the right blend of products to meet their needs. As important as the absolute price level may be the ability to procure energy to match a consumer’s fiscal budget cycle, or the ability to reduce cost risk by tying price to an index. C&I consumers want control, and the ability to manage price volatility is valued by risk-averse consumers.

Large C&I consumers are able to manage energy costs as a part of the overall business plan. Certain industrial consumers can curtail usage and receive compensation for peak capacity, operating reserves and regulation service in organized wholesale markets. This may require the installation of new on-site equipment and may be part of a significant re-engineering of their industrial process. Management of these cost and revenue streams can be complex and assistance is provided by energy service specialists, energy suppliers and curtailment service providers. 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.

Commercial consumers may choose to be LEED certified by procuring 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 other actions to help protect the environment. The beauty of the competitive market is the ability of energy suppliers to respond rapidly to consumer preferences. Energy suppliers are able to bundle new energy services and products with non-energy offers and are willing to bear the financial risk of such offerings. A key advantage of individual consumer choice is that customers can procure energy in a manner that best fits their risk profile. Entrepreneurship and innovation in product offerings is extremely valuable and is a hallmark of competitive markets.

Aggregation

Issue. Do the various types of aggregation programs promote the goals of electricity restructuring?

Summary. Aggregation programs, in their various forms, can operate as an extension of bulk power market competition. Aggregation is consistent with a goal of providing the electric commodity at a reasonable cost to residential consumers. Aggregation tends to favor "plain vanilla" electric service (the commodity), and therefore does not promote individual choice, innovation, technological change, or product and service differentiation. "Opt-out" aggregation tends to maintain the status quo and reduce individual consumer awareness, education and choice.

Recommendation. Jurisdictions which authorize and promote aggregation programs – especially in the "opt out" form – ought to treat aggregation as a transition mechanism. Jurisdictions with "opt-out" aggregation ought to develop and implement policies that cultivate, encourage and support individual consumer choice. Jurisdictions that want to add community choice aggregation ought to add the "opt-in" version.

Scoring. ABACCUS awards points to either "opt-in" or "opt-out" aggregation by counting the switching of consumers from default service to another provider. "Opt-out" aggregation does not tend to score well on some measures, namely: "Number of Retailers Making Offers," "Number of Distinct Offers," and "Categories of Products." These measures are likely to score poorly in jurisdictions that have authorized and enabled "opt-out" community choice aggregation.

Background on Aggregation

Aggregation is a process whereby one entity purchases power on behalf of a group of consumers. Some states have authorized a form called "community choice aggregation" (or "municipal aggregation" or "government aggregation") as a way to introduce citizens to the benefits of restructured electricity markets without the need for individuals to become educated or make a choice of energy supplier or retail product. In some of these programs, individuals must make an affirmative selection to leave the pool of aggregated citizens ("opt out"). "Opt-out" aggregation, if properly structured and consistent with existing market structures, can extend a dimension of bulk power competition in restructured electricity markets where customers have not made an individual choice. Ohio, Massachusetts, Illinois, and California have authorized this approach.

Various stakeholders view “opt-out” aggregation differently, and these differences parallel their views about the objectives of electricity restructuring. For example, some people believe the objective of electricity restructuring is to maximize switching from the incumbent default service provider, while managing electric service costs. To achieve this, a few informed people decide what is best for the population at large (e.g., citizens in one town). Aggregation allows a municipality to act on behalf of many people, and it permits an averaging of the risks and rewards associated with purchasing the commodity. Aggregation treats people as if we already know what they want: a plain-vanilla product of managed-cost, reliable, electric power. This is a one-size-fits-all approach. In that sense, aggregation can be viewed as similar to traditional utility regulation and default service which shares similar goals. Aggregation performed by elected local officials (or their agents) gives some consumers confidence that local people – who they may know and trust – are acting in their best interest to try to secure managed-cost power for the community. However, if individual customers are not involved in the process, they may not buy into the results. When commodity costs change, they may be concerned that they are locked into a contract that they did not actively choose.

Other people believe that electricity restructuring requires a focus on individual choice. Consumers who choose are engaged and buy into that decision. Further, decisions by individuals align consumers with personalized or customized contracts for power and services to meet their needs. This perspective believes that entrepreneurship will more quickly apply new technologies and innovative products and services to meet individual customer needs. The resulting bundles of products and services may include services not directly related to electric service. Although people in North America are used to purchasing the electric commodity, they are starting to exhibit new behaviors and preferences. The electric services perspective seems to make more sense over the long term. There needs to be an acceptance that services will change and that the future popular bundles of services cannot be known today. The electric services mentality recognizes that new market segments will arise and new technologies may dramatically alter the industry. Advocates of this perspective point to changes in the telecommunications industry as an example of what is possible in the electric industry. They also tend to see “opt-out” aggregation as reducing consumer choices, reducing the level of competition in the market, and raising other issues like customer privacy concerns.

How are the states implementing aggregation?

California. Assembly Bill 117 enables local governments to develop “opt-out” community choice aggregation programs to “offer procurement service to electric customers within their political boundaries.” The CPUC has finalized procedures for informing customers about the programs and how to “opt-out” of service from the programs. One utility has been aggressive in its efforts to retain customers (i.e., encourage consumers to “opt-out”). In a recent proceeding, the CPUC clarified that that utilities which engage in commercial speech that is untrue or misleading may be liable for penalties and subject to a temporary restraining order or preliminary injunction in a complaint before the CPUC. Further, the CPUC prohibited utilities from offering alternative “opt-out” mechanisms from those identified in the community-specific information provided by the aggregator.³

Ohio. Ohio’s electric restructuring law allows communities to aggregate their loads when they negotiate electricity prices. Under aggregation, residents received a postcard in the mail notifying them of their new electricity provider. Those who choose to “opt out” and continue buying power from their current

³ CPUC Decision 10-05-050, Rulemaking 03-10-003, Decision modifying the Decision 05-12-041 to clarify the permissible extent of utility marketing with regard to community choice aggregation programs, May 20, 2010. Available online: http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/118462.pdf.

supplier have 21 days to act. Between 2001 and 2005, residential consumer participation rose to nearly 900,000 in aggregation programs. Later, participation fell to about 200,000 and by 2006 nearly all consumers were back on default service. Between 2008 and June 2010, the number of aggregated residential consumers rose from 202,000 to 910,000. Approximately 22 percent of the state's eligible residential consumers participated in an aggregation program as of June 2010.

“Opt in” or “opt out”?

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

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

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

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

Are there observed differences in “opt-in” and “opt-out” behavior, or is this mere speculation? Do “opt in”/“opt out” rules matter? It turns out that we have experience in the medical profession with different jurisdictions and very different rules regarding organ donations. Some countries allow people to “opt in” to organ donations, while others assume that every citizen is a potential organ donor unless they “opt out.” The results of the two starting points are dramatically different. Authors Johnson and Goldstein refer to the “no-action default” as the starting point for organ donor consent.

The well-documented shortage of donated organs suggests that greater effort should be made to increase the number of individuals who decide to become potential donors. We examine the role of one factor: the no-action default for agreement. ... We then describe research that shows that presumed consent increases agreement to be a donor, and compare countries with opt-in (explicit consent) and opt-out (presumed consent) defaults. Our analysis shows that opt-in countries have much higher rates of apparent agreement with donation, and a statistically significant higher rate of donations, even with appropriate statistical controls.⁴

⁴ Johnson, Eric J. and Daniel G. Goldstein, “Defaults and Donation Decisions,” *Transplantation*, December 2004, 78(12), pp 1713-1716.

Johnson and Goldstein also observe that (1) “almost every public policy has a no-action default, and the wise selection of defaults entails a balance between these costs,” (2) “the idea that preferences are constructed provides an important alternative to views that incentives are required to increase the rate of donation” and (3) “there is another cost ... and that is the cost of making a decision. ... Defaults not only make a difference in what is chosen, they can also make decisions easier.”⁵

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

What are the other perspectives?

Almost every stakeholder agrees that consumer awareness and education are a necessary part of electric restructuring. Local governments may feel they are in a unique position to raise consumer awareness regarding electricity choice. Aggregation is one way to make people aware of an alternative means of securing electricity. People readily understand the idea of a “buying group.” Jurisdictions that pursue “opt-out” aggregation have probably determined that it is an effective way for more consumers in their jurisdiction to quickly obtain the benefits of bulk power markets.

Those who do not support “opt-out” municipal aggregation believe that individuals ought to make individual choices: individual choice results to greater buy-in to change and will result in more innovation over time. They see awareness and education as a process whereby consumers become aware of market changes which allows individual consumers to select from among many competing products and services. They see opportunity in the development of customized products and services, some of which cannot be predicted today. Further, they typically believe that well-developed retail electricity markets do not need “opt-out” aggregation programs if default service has been properly designed. They probably also view default service as a transition service (to be phased out), whereas community choice aggregation might risk becoming an end point in electric market transformation – effectively giving up on choice before it has a chance to develop – and never reaching full competition.

Aggregation, by its nature, provides one or a very small number of new products to many consumers. It is like traditional utility regulation in this regard. Even in instances where a menu of choices is available, the menu is fixed and determined by administrative process. In a dynamic market a new idea may arise from unexpected places and result in a new product.

Aggregation will result in a contract for the electric commodity, rather than differentiated electric products and services. In other words, aggregation perpetuates the notion that electricity service is a simple, undifferentiated commodity, and that innovation, technological change, creativity, brand and entrepreneurship are not important. Those who advocate for individual consumer choice feel that the electric commodity is just one input into an array of electric services. (See the discussion about “Choice, Not Price.”) They are concerned that by continuing to define the electric industry in terms of the sale of just the electric commodity, “opt-out” community choice aggregation maintains an old, status quo paradigm.

⁵ Id. p. 1716.

Consumer Usage Data

Issue. Has the jurisdiction established rules for consumer privacy, the security of consumer usage data, and energy supplier access to customer usage data?

Summary. The ownership and protection of consumer usage data is critical to consumer confidence in electric markets. Cyber security standards must be established. Appropriate public policies can balance the efficiency of data access by energy suppliers with longer-term benefits relating to consumer privacy and cyber security.

Recommendation. Each jurisdiction ought to adopt rules to protect consumer usage data while defining protocols and standards for data access by appropriate market participants.

Scoring. The ABACCUS methodology considers data ownership, responsibility for handling data to protect consumer privacy, cyber security, open standards and protocols that comply with nationally recognized non-proprietary standards, and the communication of meters with customer-owned devices (such as those inside a building for usage monitoring, load control, or prepayment).

Consumer usage data will grow in volume with advanced metering infrastructure. Access to data will increase as two-way communications systems are used, and consumer privacy and cyber security will grow in importance. Each jurisdiction ought to adopt well-defined rules to lend certainty to the treatment of consumer usage data.

Currently, there are diverse approaches among the states with regards to data access and this is a challenge for energy suppliers. Consistency within a state or within a region is important to energy suppliers. The industry should obtain “bank industry consistency” (e.g., an ATM card works everywhere) throughout North America.

This desire for efficiency must be balanced with long-term consumer and public policy interests. If customer information is inappropriately used, there will be a backlash, and a new regulatory regime will be developed. Both data access and data security are important. Jurisdictions that effectively balance these concerns are likely to secure longer-term benefits.

Public Policy Goals

Issue. Does the jurisdiction rely on market forces to the maximum extent possible to achieve goals relating to renewable resources, energy efficiency, demand response and distributed generation?

Summary. Public policy goals remain an important part of the electric industry in North America, in both the traditional (fully regulated) and restructured electricity markets. There are several ways to achieve these goals. Some jurisdictions rely on imposing new burdens on regulated utilities, and monitoring and measuring the utility programs to achieve the goals. A few jurisdictions have established government agencies or quasi-governmental not-for-profit organizations to administer energy efficiency programs and renewable resource incentives. Different organizations rely on market mechanisms to varying degrees.

Recommendation. Jurisdictions ought to rely on market forces to the maximum extent possible to achieve public policy goals.

Scoring. The ABACCUS methodology considers one element explicitly relating to public policy goals. Several elements relate to market innovation and the differentiation of products and services. These are proxies for the development of market mechanisms to achieve change.

Public policy goals remain an important part of the electric industry in North America, in both the traditional and restructured electricity markets. For example, jurisdictions which have restructured continue to encourage energy efficiency, renewable resource development, diversity in the resource mix and capacity adequacy. Smart meters and advanced communications are resulting in the introduction of new products, including time-of-use products and increased use of demand response. In certain cases, the requirements are placed on regulated utilities because regulatory commissions have the authority to impose such requirements.

Not everyone understands that there is often a competitive path to achieve many traditional resource planning goals. With heightened interest in climate change, there is renewed interest in energy efficiency, renewable energy resources, demand response, small-scale power production and distributed 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 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 the competitive purchase and maintenance of their appliances, for home repairs and home improvements. Government agencies and quasi-governmental not-for-profit organizations can administer energy efficiency programs and renewable resource incentives in a way that relies on local businesses and individual consumer choice.

Government action in the pursuit of public policy 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 to determine how to best address consumer needs. The day-to-day interactions among consumers and suppliers 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, and market stakeholders are well suited to making investments, offering new products and services, and responding to government requests for information on the rate and scope of change.

Default Service

Issue. Has the jurisdiction designed default service as a transitional service which results in individual consumer choice?

Summary. Poorly-designed default service discourages energy suppliers from entering electricity markets. Residential consumers need time to become educated about making individual choices; therefore, regulated default service is necessary for a period of time. Default service must reflect bulk power market prices and provide energy suppliers with opportunities to provide the services that individual consumers prefer.

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

Scoring. The ABACCUS methodology includes several different measures of the effectiveness of default service. States which have phased out default service, in total or for a particular customer class, receive top scores for each measure.

Default service (basic or standard service) refers to the retail tariffs 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 electricity restructuring in the residential sector. If regulators are determined to design default service so as to attempt to address all residential consumers' needs, set prices artificially below cost, or to bundle risks and spread the risk premium to all consumers, then it is unlikely that energy suppliers will enter the market. A poorly-designed default service program can undermine retail competition because it attempts to provide the services that a robust market can provide.

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. For consumers who desire a longer-term fixed-price product, energy suppliers are likely to offer such products.

Several of the states that allow retail electricity choice have had problems with implementation. In an effort to protect consumers, states set regulated rates below costs, and placed restrictions on the ability of energy suppliers to make a reasonable profit for the risks they incurred. Stated plainly, some jurisdictions designed default

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

service in a way that discouraged the formation of individual consumer choice. These states need to raise consumer awareness and education, and encourage consumer behavior that is conducive to establishing a system of individual consumer choice. Many residential consumers are not used to monitoring and choosing in the market, and it takes some time for new service providers to make the investments necessary to offer services that address consumer preferences.

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

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

Recommendations

The ABACCUS report sets forth a methodology that reflects the direction each jurisdiction should consider to improve the likelihood of success of its retail electricity restructuring. As with any scorecard or rubric designed to assess an activity, the methodology is subject to dispute by reasonable people. Various stakeholders have different thoughts about how to define "success," what issues are most important, and how various items ought to be scored and weighed. The purpose of the ABACCUS report is to point to improvements that may help states with the ongoing process of reform.

It is apparent that some states are on a course that is likely to enhance market performance in the long term, while policies in other states continue to discourage market entry by energy suppliers or discourages innovation and product differentiation. The ABACCUS methodology points to public policies that promote market forces to the greatest degree possible, while keeping in mind that the consumer must be protected.

The following recommendations are supported by a consensus among the project sponsors, but do not necessarily represent the position of the ABACCUS Advisory Board, its individual members, or their respective companies or regulatory agencies.

Electricity Restructuring Goal

Some observers, grounded in the traditional paradigm of average-cost regulation, believe that the average price of the electric commodity is the most important measure of success for an electric market or electricity restructuring. Other people advocate a goal of individual consumer choice and the associated innovation, technological change and product differentiation. State legislators and regulatory commissioners need to ask how to improve the purchase of electricity and how the state's goal should promote individual consumer preferences in the decision. Advocates for individual consumer choice seek policies that "look beyond price" and consider "choice not price." Price will always remain an important criterion, but the ability of consumers to assess risk, manage a personal budget and select a low cost which is guaranteed over an extended period are valuable attributes of service which empower individuals to make particular choices.

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

Market Eligibility

Customers must be eligible to participate in markets. Several states have yet to open all areas to retail electric choice (e.g., Texas outside of ERCOT, municipal utilities and electric cooperatives). Therefore, they limit the ability of electricity consumers to move off the regulated tariffs.

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

Aggregation

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

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

Wholesale Markets

Wholesale market development must accompany retail electricity competition. Ten organized markets in the U.S. and Canada are advancing the development of the bulk power markets that serve retail electricity consumers. Effective wholesale market structure is a key component of a working retail market. A competitive retail energy supplier can manage the physical and financial risk associated with electricity 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 consumers' needs, an energy supplier can provide differentiated and customized risk management services that individual consumers would prefer. Policies to support fully-integrated wholesale and retail electricity markets includes the adoption of advanced market policies and the integration of retail consumers into demand response activities.

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

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

Default Service

Default service (basic or standard service) refers to the retail tariffs established to provide a transition from legacy regulated rates to market-based prices and products and services. The design and implementation of default service is the most significant single issue affecting the success of electricity restructuring in the residential sector. 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 probably not consistent with a transition to retail competition.

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

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

Recommendation #8: If supply procurement for default service is done through competitive wholesale procurements, then multiple, short-term auctions are preferred 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 Choice

Each state may adopt policies and programs to facilitate the choice of energy supplier. The options include rules, regulations and laws regarding electric distribution utility structure, utility-affiliate codes

of conduct, rules governing billing and metering, and rules that require the standardization of business transactions among all market participants. Energy suppliers will enter a market when they have certainty regarding market structure, rules and oversight.

Recommendation #9: Establish a plan for the separation of regulated 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 #10: Establish protocols and standards for access to basic consumer information including commercial practices and electronic data exchange.

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

Public Policy Goals

States and provinces employ a variety of mechanisms to achieve goals for energy efficiency, renewable resources, demand response and the promotion of on-site power generation. Some regions have taken a command and control approach through standards and codes, but should instead pursue market mechanisms to achieve compliance. Most residential consumers rely on competitive markets to purchase appliances, perform home repairs and make home improvements. C&I consumers acquire services relating to energy usage, investments in new processes, installation of more efficient devices and the measurement, monitoring and control of devices. The ABACCUS methodology is relatively indifferent to policies relating to renewable resources and energy efficiency as long as the policies treat all the market participants fairly

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

Volume I – Appendices

Appendix A – ABACCUS Advisory Board

The 2010 ABACCUS Advisory Board is comprised of sitting regulatory commissioners, former regulators, energy executives, and representatives from the sponsoring companies. The 2010 Advisory Board was created to review and update the methodology, facilitate a non-adversarial sharing of ideas among stakeholders, and improve awareness and understanding of ABACCUS.

The ABACCUS report does not represent the position of any individual member of the ABACCUS Advisory Board or of the listed companies or regulatory agencies.

2010 Advisory Board Members

- Chairman Garry Brown, New York State Public Service Commission
- Commissioner Sherman Elliott, Illinois Commerce Commission
- Commissioner Valerie Lemmie, Ohio Public Utilities Commission
- Commissioner Robert Powelson, Pennsylvania Public Utility Commission
- Chairman Barry Smitherman, Public Utility Commission of Texas
- Commissioner Timothy Simon, California Public Utilities Commission
- Paul Hudson, Founder and Principal, Stratus Energy Group (former PUC of Texas Chairman)
- Bill Massey, Partner, Covington & Burling LLP (former FERC Commissioner)
- Brett Perlman, Principal, Vector Consultants (former PUC of Texas Commissioner)
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- Bob Anderson, Vice President of Retail Commodity, ConEdison Solutions
- David I. Fein, Vice President, Energy Policy-Midwest / Director of Retail Energy Policy, Constellation Energy Group, Inc.
- Ron Cerniglia, Director–National Advocacy, Governmental & Regulatory Affairs, Direct Energy
- Meigs Jones, Assistant General Counsel, Green Mountain Energy Company
- Gene Alessandrini, Senior Vice President, Marketing, PPL EnergyPlus, LLC
- Jeff Brown, Vice President, Shell Energy North America
- Keven Richardson, Director of Public Policy and Strategy, TXU Energy

Appendix B – ABACCUS Sponsors

This report does not necessarily represent the position of particular sponsoring companies.

2010 Sponsoring Companies

ConEdison Solutions
<http://www.conedsolutions.com/>



Constellation Energy Group, Inc.
<http://www.constellation.com/>



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



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



PPL EnergyPlus, LLC
<http://www.pplenergyplus.com/>



Shell Energy North America
http://www.shell.us/home/content/usa/products_services/solutions_for_businesses/energy_na/



TXU Energy
<http://www.txu.com/>



Appendix C – 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 scorecard 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 and individual consumer choice
- Identify best regulatory practices for the regulated electricity network so that utilities can support a vibrant retail electricity market
- Provide useful information to policy makers and retail electricity market stakeholders in 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 individual consumer choice in electricity markets

An ABACCUS Advisory Board was created in 2006 to balance the perspectives of energy suppliers with other points of view. The 2006-7 Advisory Board included senior professional staffers from some of the larger state regulatory agencies: California, Illinois, Maryland, Massachusetts, Michigan, New York, Pennsylvania and Texas. The Board met via conference call between October 2006 and May 2007 to design the ABACCUS methodology, including scoring and weighting of the elements.

The 2010 ABACCUS Advisory Board was created to review and update the methodology. The 2010 Advisory Board included sitting commissioners from state regulatory agencies in California, Illinois, New York, Ohio, Pennsylvania and Texas. (See Appendix A for a list of members.) The Advisory Board met three times in 2010. During its first meeting, it determined that the audience for ABACCUS is policy makers (state legislators and regulatory commissioners) as well as the general public. The issues discussed during the three meetings are described in this report.

Appendix D – Electricity Restructuring Terminology

Certain electricity restructuring terminology varies widely among the jurisdictions. Here are some common terms for the entity which sells electricity to consumers, the regulated transition service, and miscellaneous terms which are important in certain jurisdictions.

| | Electric Supplier | Regulated Service | 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) | 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 | Competitive Electric Supplier | Standard Offer Last Resort Rates | |
| Texas | Retail Electric Provider (REP) | Price-to-Beat (ended 1/1/2007) Provider of Last Resort (POLR) | |
| Alberta | Retailer | Regulated Rate Option (RRO) | |
| Ontario | Electricity Retailer | Standard Supply Service (SSS) Regulated Price Plan (RPP) | |

Appendix E – Summary of ABACCUS Methodology

Appendices G (residential) and H (commercial and industrial) provide detailed descriptions of the ABACCUS methodology.

ABACCUS applies an analytical tool to measure progress in implementing retail electricity choice in North America. The methodology poses about two dozen questions that are considered important to the success of electricity restructuring for residential consumers, and a similar set of questions relating to commercial and industrial consumers opportunities. Data are collected from US states and Canadian provinces and points (zero to ten) are associated with each response. Options that advance retail electricity choice receive more points. Weights are assigned to each score to balance the numerous factors that affect the success of electricity restructuring. The weighted average scores are calculated and each jurisdiction is ranked.

ABACCUS is designed to highlight the best policies, market structures and business practices that support sustained market performance and individual consumer choice. A hallmark of the methodology is the breadth of issues explored because retail electricity choice cannot be understood in terms of one measure or metric. Qualitative judgment is then applied to assess whether a jurisdiction is improving or falling behind in the implementation of electricity restructuring.

Residential Elements and Key Questions

The residential elements are presented in four groups: A) Status of Retail Choice, B) Wholesale Competition, C) Default Service, and D) Facilitation of Choice of Retailer.

Table E-1: Residential Elements

| No. | Residential 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 September 1, 2010? |
| A.2 | Number of Retailers Making Offers to Residential Customers | How many retailers are actively making offers to residential customers in the jurisdiction on September 1, 2010? |
| A.3 | Residential Customers Receiving Competitive Rate | What percentage of eligible residential consumers receives service at a competitive retail rate as of September 1, 2010? |
| A.4 | Market Switching Measure | Does the jurisdiction measure market switching in residential markets and regularly publish the result? |
| A.5 | Market Size | What is the level of annual retail electricity sales in the jurisdiction as of September 1, 2010? |
| A.6 | Number of Distinct Offers | How many distinct offers were available from competitive suppliers to residential consumers in the jurisdiction as of September 1, 2010? |
| A.7 | Categories of Products | Are these four categories of products – month to-month, fixed-price, indexed price, and green – available from competitive suppliers to residential consumers in the jurisdiction as of September 1, 2010? |
| 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? |

| No. | Residential Element | Key Question |
|------------|--|--|
| C.1 | Default Service Supplier | What type of company provides default service as of September 1, 2010? |
| 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? |
| 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? |
| 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 Electricity Usage Data | Do retailers have timely access to detailed electricity usage data? |
| D.9 | Advanced Metering Infrastructure | Has the jurisdiction invested in advanced metering and communications? |
| D.10 | Electricity Usage Data Security and Customer Privacy | Has the jurisdiction established clear policies regarding the security of customer usage data, customer data privacy, and the appropriate uses of customer usage data? |

C&I Elements and Key Questions

The commercial and industrial elements are also presented in four groups: A) Status of Retail Choice, B) Wholesale Competition, C) Default Service, and D) Facilitation of Choice of Retailer.

Table E-2: C&I Elements

| No. | C&I Element | Key Question |
|------------|--|--|
| A.1 | Eligibility of C&I Customer Load (%) | What percentage of commercial and industrial <u>load</u> in the state/province is eligible for retail electricity choice on September 1, 2010? |
| A.2 | Number of Retailers Making <u>Large</u> C&I Offers (#) | How many retailers are active in making offers to <u>large</u> C&I customers on September 1, 2010? |

| No. | C&I Element | Key Question |
|-----|---|---|
| A.3 | Number of Retailers Making <u>Medium</u> C&I Offers (#) | How many retailers are active making offers to <u>medium</u> C&I customers on September 1, 2010? |
| A.4 | Large C&I Customer Load Switching (%) | What percentage of eligible large C&I <u>load</u> has switched on September 1, 2010? |
| A.5 | Medium C&I Customer Load Switching (%) | What percentage of eligible medium C&I <u>load</u> has switched on September 1, 2010? |
| A.6 | Market Switching Measures | Does the state/province measure and regularly publish market switching or migration statistics? |
| A.7 | Market Size | What is the level of annual retail electricity sales in the jurisdiction as of September 1, 2010? |
| B.1 | RTO/ISO Existence | Is the jurisdiction within an organized wholesale market (RTO or ISO)? |
| 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? |
| C.1 | Default Service for Large C&I | Is a regulated default service rate offered to large C&I loads as of September 1, 2010? 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 September 1, 2010)? |
| 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? |
| 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? |
| 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? |

| No. | C&I Element | Key Question |
|-----|--|--|
| 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 | Electricity Usage Data Security and Customer Privacy | Has the jurisdiction established clear policies regarding the security of customer usage data, customer data privacy, and the appropriate uses of customer usage data? |

Weighting of the Elements

Residential ABACCUS Weights

New/ revised in 2010

| | | |
|---------|--------------|------|
| Topic A | Status | 18% |
| Topic B | Wholesale | 8% |
| Topic C | Default | 49% |
| Topic D | Facilitation | 25% |
| Total | | 100% |

| Topic A | A.1 | A.2 | A.3 | A.4 | A.5 | A.6 | A.7 |
|---------|-----------|-----------|---------|-------|-----|---------|-------|
| Weights | Eligible% | Retailer# | Switch% | Stats | GWH | Offers# | Types |
| Percent | 3% | 4% | 3% | 1% | 4% | 2% | 1% |

| Topic B | B.1 | B.2 |
|---------|----------|------------|
| Weights | WhlsMrkt | Responsive |
| Percent | 6% | 2% |

| Topic C | C.1 | C.2 | C.3 | C.4 | C.5 | C.6 | C.7 | C.8 |
|---------|-----------|----------|-------|------------|---------|-----------|----------|------------|
| Weights | Dprovider | Dproduct | Drate | Dportfolio | Dswitch | Dcostallo | Stranded | PublicReqt |
| Percent | 8% | 6% | 12% | 10% | 6% | 6% | 0% | 1% |

| Topic D | D.1 | D.2 | D.3 | D.4 | D.5 | D.6 | D.7 | D.8 | D.9 | D.10 |
|---------|-----------|------------|-----------|------------|-------------|--------------|---------|-------------|-----|-----------|
| Weights | Structure | Safeguards | Education | InfoAccess | UniformStds | TransactStds | Billing | MeterAccess | AMI | UsageData |
| Percent | 4% | 3% | 0% | 3% | 3% | 2% | 4% | 2% | 2% | 2% |

C&I ABACCUS Weights

New/ revised in 2010

| | | |
|---------|--------------|------|
| Topic A | Status | 25% |
| Topic B | Wholesale | 16% |
| Topic C | Default | 32% |
| Topic D | Facilitation | 27% |
| Total | | 100% |

| Topic A | A.1 | A.2 | A.3 | A.4 | A.5 | A.6 | A.7 |
|---------|----------|----------|-----------|----------|-----------|-------|-----|
| Weights | LoadElig | LgOffers | MedOffers | LgSwitch | MedSwitch | Stats | GWH |
| Percent | 3% | 4% | 4% | 4% | 4% | 2% | 4% |

| Topic B | B.1 | B.2 | B.3 | B.4 | B.5 |
|---------|--------|---------|--------|--------|---------|
| Weights | RTOISO | Monitor | ReliDR | EconDR | AncilDR |
| Percent | 5% | 3% | 3% | 3% | 2% |

| Topic C | C.1 | C.2 | C.3 | C.4 | C.5 | C.6 | C.7 | C.8 |
|---------|------|----------|-------------|---------|------------|----------|----------|-----------|
| Weights | LgDS | LgDScost | MedProvider | MedCost | MedProduct | MedAlloc | MedHedge | MedSwitch |
| Percent | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |

| Topic D | D.1 | D.2 | D.3 | D.4 | D.5 | D.6 | D.7 | D.8 | D.9 |
|---------|---------------|------------|-------|------------|-------------|-------------|--------------|-----|-----------|
| Weights | UtilStructure | Separation | Wires | Safeguards | SwitchAdmin | UniformStds | TransactStds | DG | UsageData |
| Percent | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% |

Volume II – Appendices

Volume II is a separate document which describes electricity restructuring in each state/province and provides a detailed description of the ABACCUS methodology.

Appendix F – Overview U.S. States and Canadian Provinces

A jurisdiction-by-jurisdiction description of electricity restructuring provides an overview of the past decisions in each jurisdiction, including the major legislation and regulatory commission decisions that affected the structure of retail electricity competition. Tables present the number of active electricity suppliers, number of product offerings, recent switching statistics and past electricity sales and average prices.

Appendix G – Residential ABACCUS Methodology (detail)

The Residential ABACCUS Methodology describes each element, provides each option within each element, sets forth the scoring, and describes the relationship between the options and success in retail electricity markets.

Appendix H – Commercial & Industrial ABACCUS Methodology (detail)

The Commercial and Industrial ABACCUS Methodology describes each element, provides each option within each element, sets forth the scoring, and describes the relationship between the options and success in retail electricity markets.