MEMORANDUM

TO: Docket Control
FROM: Elijah O. Abinah
Director
Utilities Division
DATE: February 12, 2019
RE: IN THE MATTER OF POSSIBLE MODIFICATIONS TO THE ARIZONA CORPORATION COMMISSION'S RETAIL ELECTRIC COMPETITION RULES. (DOCKET NO. RE-00000A-18-0405)
SUBJECT: SECOND RETAIL ELECTRIC COMPETITION RESEARCH SUBMISSION

The attached report on Electric Competition contains a supplemental summary of findings regarding retail competition in other jurisdictions.

The report is divided into two sections: electric market information and state-specific information. Thus, the report is not intended to be read as a single narrative, but to be used as a reference representing a recapitulation of information available.

The report makes no determination on the value of retail competition, nor does it make any recommendations for or against restructuring the electric market in Arizona.

EOA:PWM:elr/PRP
Originator: Phillip Metzger
Attachments
Retail Electric Competition

- Jurisdictional Issues
- Recent Events

February 2020

Arizona Corporation Commission Staff
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Executive Summary

This report provides a fact-based review of electric restructuring initiatives and challenges in competitive electric markets in the United States. All research and data gathered in the process of writing the report are publicly available, except where noted.

While the report does focus on the unique challenges faced in each jurisdiction, the reader should not interpret that the inclusion of such challenges as elements of an argument against retail competition. Their presence is merely to identify the unique nature of each restructuring initiative and perhaps convey to the reader the complex nature of electric market design.

The report makes no determination on the value of retail competition, nor does it make any recommendations for or against restructuring the electric market in Arizona. Many states have completed evaluations of the impact of competition on the rates paid by residential and commercial customers in an attempt to determine if consumers are better or worse off by switching to retail electric providers. Most of these evaluations are publicly available and will not be included in any analysis here.

The report has identified the following as the key impressions from states’ experiences with electric restructuring:

- The significant time and resources demanded by the restructuring process
- The treatment of stranded costs
- The need for a fully functional wholesale market
- The complex nature of market design
- Maintaining reliability
- The need for consumer protections

The majority of the states that have restructured electric markets did so in the period 1996-1999, at the height of the deregulatory movement in other industries, such as telecommunications and finance. The loosening of federal regulations and statutes that began in the 1970s introduced competition into much of the wholesale power market by the 1990s, but because of the split jurisdiction within the power sector, the decision to restructure electric markets and allow competition at the retail level was left to policymakers in each state, while independent grid operators shaped transmission markets between states.¹

The New England states were among the first states to explore the restructuring of their electric markets, which is unsurprising given that New England had the highest retail electric rates at the time. By 2000, five of the six states had passed legislation enabling retail electric competition, with Vermont electing to not proceed with restructuring.²

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¹ (Reishus Consulting, LLC 2015)
² (Reishus Consulting, LLC 2015)
Public Utility Commissions

The majority of state commissioners are appointed by their governor or state legislatures, while commissioners in 13 states are elected. All of the public utility commissioners in fully competitive states are appointed. Of the markets with limited participation, only Georgia has elected commissioners. Of the three states that had implemented competition in the past, but have returned to a traditional regulated market, two have publicly elected commissioners, and the third is elected by the General Assembly (Virginia).

The Role of a Public Utility Commission in Traditional and Restructured States

For states that have not restructured their electric markets, and utilities remain vertically integrated, the Public Utility Commission (PUC) retains oversight of in-state wholesale and retail power sales, transmission, and reliability. For those states that have restructured electric markets, oversight of market functions is divided between the following:3

- Wholesale power sales and unbundled transmission sales are governed by FERC through the relevant transmission organization, where applicable.
- Wholesale prices are determined by the market, but states retain oversight over retail rates through the PUC, in most cases.
- Municipal utilities and electric cooperatives may be regulated by local elected officials, boards of directors, or PUCs.
- States, usually through PUCs, retain some oversight over capital investment (the early retirement of generators being a point of contention) and the construction of new generation. States also retain the ability to adopt and enforce environmental goals.

3 (M.J. Bradley & Associates LLC 2011)
Transmission Organizations

The Role of an ISO/RTO⁴

All the states that have restructured their electricity markets to provide full retail electric competition belong to either an Independent System Operator (ISO) or Regional Transmission Organization (RTO). These organizations were authorized by FERC in 1996 to “remedy undue discrimination in access to the monopoly-owned transmission wires that control whether and to whom electricity can be transported in interstate commerce,”⁵ and perform the following functions:

- Operate the bulk electric power system.
- Develop and administer the wholesale electric market.
- Oversee the power system planning process to address transmission needs.

⁴ (American Public Power Association 2019)
⁵ FERC Order No. 888, April 24, 1996.
While ISO/RTOs do not own the transmission infrastructure in their territory, they have operational control over the transmission system. Similarly, ISO/RTOs do not own the power plants that generate the power to be bought and sold in the market but decide which generators will run and at what levels, provide or deny the transmission services needed for the transactions to occur, and provide billing services for those transactions.

As illustrated in the map above, not all markets are governed by a transmission organization. These markets—mainly in the Southeast and the West outside of California—are collectively known as the bilateral market. In a bilateral market, wholesale sales must be conducted directly between parties, through a broker, or through an electronic brokerage such as the Intercontinental Exchange. Utilities in these markets are typically vertically integrated, meaning they own the generation, transmission, and distribution systems used to serve electric customers. While the bilateral market continues to exist within areas operated by an ISO/RTO, it operates in tandem with an organized market that pools all buyers and sellers.

Market Structures

ISO New England

Market Relationships

* NESCOE: New England States Committee on Electricity
** NECPUC: New England Conference of Public Utilities Commissioners
Capacity Markets

In addition to energy markets, most ISO/RTOs operate capacity markets. The existence—and function—of capacity markets differs from organization to organization.

**PJM Capacity Market**

On July 25, 2019 the Federal Energy Regulatory Commission (FERC) directed PJM Interconnection to postpone its capacity auction. This comes at a time when the RPM auction is phasing out its Base Capacity Resource product and requiring all resources to satisfy PJM’s Capacity Performance effective with the 2020/2021 delivery year. During the 2018-2019 winter period, PJM saw that its “reserve market during stressed conditions showed that valuable energy reserves, while adequate during these periods, were not appropriately compensated in the market, which supports the movement for price reforms.”

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6 (PJM 2019)
RPM Auction Schedule

Note: A Conditional Incremental Auction may be scheduled at any time prior to the delivery year.
The Maturing Market (2001-2008)

Interest in restructuring waned dramatically after California's energy crisis in 2000-2001. By the mid-2000s, some states repealed legislation that allowed for electric choice or put their current restructuring efforts on hold. Arkansas, for example, had passed legislation to restructure its electric market in 1999, revised its earliest implementation date in 2001, and ultimately reversed course and repealed all electric choice legislation in 2003.\(^7\) A similar process occurred in Nevada. That state passed legislation restructuring its electric markets in 1997, delayed the opening of the market in 1999, and repealed all legislation in 2001.\(^8\)

Renewable Offerings with Retail Electric Choice

While the price impacts from retail electric choice are unclear, it created an environment where suppliers could develop innovative ways to differentiate themselves from the competition. As stated in the introduction to this study, restructuring electricity markets was expected to result in more renewable energy options for customers. Anecdotal evidence suggests that restructured markets did see a proliferation of renewable energy options, but the increase cannot be directly attributed to restructuring as traditionally regulated states also saw an increase in such options, although not to the same extent as seen in some restructured markets. The options available to residential customers in Texas are illustrative of the green energy options provided by retail electric suppliers:

<table>
<thead>
<tr>
<th>Renewable Power Options(^9)</th>
<th>Number of Offers</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>25</td>
</tr>
<tr>
<td>76-99%</td>
<td>25</td>
</tr>
<tr>
<td>26-75%</td>
<td>0</td>
</tr>
<tr>
<td>0-25%</td>
<td>89</td>
</tr>
</tbody>
</table>

In some jurisdictions, namely Virginia, we can see where competitive electric supply directly impacted regulated utilities' renewable offerings. Customers had been permitted to purchase 100% renewable energy from suppliers “if the incumbent electric utility service the exclusive territory does not offer an approved tariff” that provides 100%

\(^7\) (Arkansas Public Service Commission n.d.)

\(^8\) (Snyder 2017)

\(^9\) Available to residential customers in zip code 75070 (McKinney, TX) or 75287 (Dallas, TX) from retail electric suppliers rated 3-stars or greater by PUCT on powertochoose.org as of December 3, 2019.
renewable energy. This allowed eligible customers within Dominion Energy Virginia's service territory to choose a supplier, so long as the supply was 100% from renewable sources, prompting the utility to file an 100% renewables tariff with the State Corporation Commission. If the regulators approve the tariff, Virginia will effectively end retail electric choice.

Community Choice Aggregations

Community Choice Aggregations (CCAs) are local governmental entities that procure electricity on behalf of its retail electric customers within a given geographic area. CCAs are usually administered by a local governmental body, but also may be run by a third-party through a contract with the local government. The CCA is responsible for procuring wholesale electricity for its retail customers, while the local distribution company (LDC) is responsible for delivering electricity to its end users.

Most CCAs operate under an opt-out structure. Consumers within a CCA’s service area are automatically enrolled into the CCA and must actively choose to opt out of the program and either return to default service or choose to procure their energy on their own from a retail electric provider. This structure requires state legislation allowing local governmental entities to be the default electricity providers instead of utilities. California, Illinois Massachusetts, New Jersey, New York, Ohio, Rhode Island, and Virginia have all passed such legislation.

Although not as common, some CCAs operate under an opt-in structure. Where a CCA is opt-in, consumers must proactively enroll in the program or they will continue to receive electricity from their current provider. As one would expect, CCAs that operate under this structure tend to have lower participation rates. Some CCAs can have a hybrid structure whereby a consumer's inclusion in the CCA is governed by an opt-out provision with an opt-in "green" price option at a premium, for example. The use of tiered green pricing options is usually mated to provisions that allow participants to raise or lower the percentage of renewable sources of electricity.

<table>
<thead>
<tr>
<th>CCA Green Power Product Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure</strong></td>
</tr>
<tr>
<td>Opt-Out</td>
</tr>
<tr>
<td>Opt-In</td>
</tr>
<tr>
<td>Opt-Up</td>
</tr>
<tr>
<td>Opt-Down</td>
</tr>
</tbody>
</table>

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10 (Gheorghiu 2019)

11 (O'Shaughnessy, et al. 2019)

12 (O'Shaughnessy, et al. 2019)
All CCAs are required to satisfy state renewable portfolio standards (RPS) requirements. An RPS is a state policy mandating that a load-serving entity (LSE) procure a specified percentage of their electricity portfolio from renewable energy sources.

CCAs can exist in both regulated electricity markets as well as restructured electricity markets. In regulated markets, a CCA acts much like a utility.

**Benefits**

- Electricity prices under CCAs tend to be lower than the residential retail price for electricity due to collective buying power of the entire community participating in the CCA.
- The procurement process allows the CCA to exert local control over electricity generation choices, enabling better matching to local environmental goals.

**Challenges**

- Implementation requires state legislation, passage of local ordinances, and compliance with CCA regulations.
- CCAs face the same contract risks as individuals when procuring electricity from retail electric providers.
- Opt-in, opt-out, opt-up, and/or opt-down clauses may be confusing to consumers.

**Increasing Delivery Charges**

There are several reasons these for rising costs. Keeping in mind that key delivery expenses include 1) transmission expenses such as towers, poles, and wires; 2) the installation, operation, and maintenance of meters or AMI; and 3) customer billing, education, and programs such as energy efficiency, we will discuss a couple of the more visible challenges that some utilities (and states) have overcome through costly, but necessary capital expenditures.

**Aging Infrastructure**

Once the poster child for America’s crumbling infrastructure, the Energy Infrastructure Modernization Act in 2011 enabled ComEd, a utility serving Chicagoland, to invest $2.6 billion to modernize its grid. Half of the investment was devoted to improving reliability through underground cable, wood poles, manholes, and storm hardening. EIMA-funded programs discovered 4,800 primary cable defects, replaced 3,500 miles of cable, and reinforced or replaced 20,500 poles.

The remaining $1.3 billion was invested in smart technology, which increased operational efficiency and reliability. The installation of more than 2,600 smart meters enabled power to be rerouted during outages, reducing the number of customers impacted per lockout. Smart substations enabled operators to proactively address issues with equipment, before any impact to customers. The addition of smart meters or AMI reduced delays in the reporting of power outages and avoided 320,000 work crew dispatches in 2016 alone.

13 (Pierce 2017)
Transmission-Line Congestion\textsuperscript{14}

West Texas has experienced extremely fast load growth in the past decade, a result of natural gas and oil production in the Permian Basin. At the same time, the state also became the largest producer of wind power in the country by exploiting the wind potential of West Texas.\textsuperscript{15} This has led to challenges to put in place the transmission improvements necessary to serve increases in load not just to the state’s urban centers, but also within the panhandle.

Any such improvements are built by a local distribution company (known as a TDSP or TSP in Texas) and paid for by consumers over the depreciated life of the project. This repayment, including TDSP overhead and maintenance, is calculated annually and charged to consumers throughout ERCOT. This is known as the ERCOT Transmission Cost of Service (TCOS). Figure 1 shows ERCOT’s annual TCOS for 2008-2017.

While the investments reflected in Figure 1 are an example of an increase in distribution costs, they are also included here as an example of how an evaluation that strictly separates supply and delivery costs fails to appreciate the effect a single change may have on multiple billing determinants. There are several factors that have contributed to the decrease in supply costs in ERCOT over the decade discussed, including lower natural gas prices and increased wind production. Thus, the investment in transmission has contributed in some manner to lower energy costs by supporting demand increases related to natural gas production and the allowing more wind generation to be delivered into the ERCOT market.

Declining Residential Retail Choice Participation

The primary reason customers switch electric providers is the same for virtually all industries: a perceived better price/value from a competitor than that of the incumbent. However, as the price/value gap narrows between retail electric providers and regulated public utilities, fewer residential customers are choosing to participate in retail electric choice programs.

The number of customers participating in retail choice programs reached its peak in 2014 at 17.2 million customers (13% of total residential customers) and has declined in the years since, with 16.7 million customers participating in 2017.\textsuperscript{16} Over 6.3 million of these customers reside in a single state, Texas.\textsuperscript{17} In Texas, participation is mandatory.

\textsuperscript{14} (Electric Reliability Corporation of Texas 2018)

\textsuperscript{15} (Druzin 2018)

\textsuperscript{16} (Palacios 2018)

\textsuperscript{17} (EIA n.d.)
One reason participation in retail choice may be declining is due to the fact that regulated utilities, as a whole, are improving in terms of customer satisfaction, and satisfied customers are less likely to switch absent a significant cost savings, which retail suppliers may not be able to provide. J.D. Power has found that half of customers with scores 900 or higher say they “definitely will not” switch providers, while 37% of customers with scores of 750-899 and 25% of customers with scores 550-749 say the same. Additionally, the customers indicated they would consider switching for a savings of $46, $35, and $30 per month, respectively.\(^{18}\)

**Recent Events**

**Florida**

Citizens for Energy Choice has collected 403,130 (as of August 28, 2019) of the 766,200 signatures required to place an electric deregulation ballot measure on the 2020 ballot.\(^{19}\) The measure is supported by Infinite Energy, Inc., which supplies natural gas, but not electricity, in the state. A copy of the petition form is included in Appendix A.

The Florida Supreme Court heard oral arguments on August 28, 2019.

**Agera Energy and Loss Leaders**

Agera Energy LLC, a retail electric and natural gas supplier filed bankruptcy in the Southern District of New York on October 4, 2019. The company blamed, among other things, mismanagement and too many low-margin fixed-price contracts in an environment best suited to variable-price contracts. In September 2018, sponsor Eli Global LLC agreed to pursue a turnaround plan, including any necessary capital infusions. New management soon discovered material balance sheet issues. After millions in capital contributions, Eli Global indicated it could no longer inject capital into Agera Energy. Without additional capital the company would no longer be able to satisfy the renewable portfolio standards it is subject to. That was prior to the company being subject to approximately $72 million in liabilities and enforcement actions from Massachusetts Department of Energy Resources, PURA in Connecticut, the Rhode Island PUC, and New Hampshire PUC. These enforcement

\(^{18}\) (J.D. Power 2016)

\(^{19}\) (Klas 2019)
actions also jeopardized the company's ability to continue serving customers in those states. The company lists the Massachusetts Department of Energy Resources as its largest creditor with $44 million in unsecured claims.20 21 Agera has reached a deal with Constellation to take over 50,000 of its 70,000 electric and natural gas customers. The remaining customers, ostensibly those with uneconomic contracts, will return to their local utility. Financial terms of the deal have not been disclosed, but it is unlikely that unsecured creditors will receive any compensation as a result of the sale.22 Electric contracts offered to new customers are often loss leaders using artificially low prices to entice the customer to switch away from their incumbent supplier. If the customer does switch, the new supplier intends to make up for the loss on a renewal contract or include these contracts in a sales book that can then be sold to another retail electric provider, preferably at a profit. However, in the event the customer spurns its renewal contract for a lower-priced contract from a competitor or a sales book is unsold, the supplier is left with a loss.

20 (Sanders 2019)
21 (Sanders, Electric supplier’s bankruptcy filing leaves NH Renewable Energy Fund in a bind 2019)
22 (Iannella 2019)
Below is a compilation of state by state information discussing retail competition in states that have implemented retail competition. Information regarding the historical average prices of electricity by industrial, commercial, and residential classes is also shown.

Connecticut

Connecticut At-A-Glance

<table>
<thead>
<tr>
<th>Competition Type: ALL</th>
<th>Key Utilities: Eversource</th>
<th>CCA Legislation: NO</th>
</tr>
</thead>
</table>

Timeline of Electric Competition in Connecticut25

2014 - The Electric Supplier Consumers’ Bill of Rights goes into effect on July 1.

Electric Supplier Consumers’ Bill of Rights26

In response to a growing number of consumer complaints about spiking prices, deceptive marketing practices, and a lack of a disclosure regarding rates and contract terms, Governor Dannel Malloy introduced a legislative package known as the Electric Supplier Consumers’ Bill of Rights in 2014.27 The Bill of Rights provided for greater disclosure in the electric supplier market by:

- requiring electric bills to show the rate charged by the supplier, rate of standard service, term of standard service, dollar amount billed by supplier, and the dollar amount that would have been billed under standard service.
- requiring rates to be fixed for at least three months if a supplier markets a variable rate plan with an introductory “teaser” rate.
- requiring suppliers to reduce or eliminate early termination fees.

23 (EIA n.d.)

24 (National Conference of State Legislatures n.d.)

25 (Reishus Consulting, LLC 2015)


27 (Connecticut Governor's Office 2014)
requiring suppliers to receive affirmative written consent from a customer before switching that customer from a fixed to a variable-rate contract.

- requiring suppliers to disclose to PURA—and list on both PURA’s and the supplier’s web site—the highest and lowest rate charged to customers.

- requiring utilities to switch customers, at their request, back to standard service within 48 hours and to another supplier within 30 days. After a year, the law required utilities to switch customers to other suppliers within 48 hours.

The law also made funds available to PURA to increase enforcement staff.

Figure 2 Complaints to PURA spiked in 2014. Source: PURA
Delaware

Delaware At-A-Glance

<table>
<thead>
<tr>
<th>Competition Type: ALL</th>
<th>Key Utilities: Delmarva</th>
<th>CCA Legislation: NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission Organization: PJM</td>
<td>Customers (Rank): 488,190 (#45)</td>
<td>Net Metering: YES</td>
</tr>
</tbody>
</table>

Timeline of Electric Competition in Delaware

1999
- The Electric Utility Restructuring Act passes.
  - Delmarva is required to complete its transition to competition by September 20, 2002 for nonresidential customers and September 30, 2003, for residential customers.
- Delmarva begins its phase-in of retail competition on October 1.
- Residential rates are reduced by 7.5% and frozen until October 1, 2003.

2002
- On April 16, the Public Service Commission extends the rate cap until May 1, 2006.

2006
- The Electric Utility Retail Customer Supply Act of 2006 is signed by the governor on April 6. Its primary objective is price stability and returns some authority over the generation and sale of electricity to the PSC.

2007
- Only 1% of residential customers switch to retail electric suppliers.

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28 (EIA n.d.)
29 (National Conference of State Legislatures n.d.)
Historical Prices in Delaware (2000-2017)\textsuperscript{31}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{historical_prices_graph}
\caption{Average Historical Price (Cents/kWh)}
\end{figure}

\textsuperscript{31} (EIA n.d.)
Georgia

Georgia At-A-Glance

<table>
<thead>
<tr>
<th>Competition Type: <strong>LIMITED</strong></th>
<th>Key Utilities: <strong>Georgia Power</strong></th>
<th>CCA Legislation: <strong>NO</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission Organization: <strong>NONE</strong></td>
<td>Customers (Rank): <strong>4,956,555 (#9)</strong></td>
<td>Net Metering: <strong>OTHER</strong></td>
</tr>
</tbody>
</table>

Hybrid Market Structure

Georgia’s path to retail electric competition is unique in that it remains a traditionally regulated market served by vertically integrated utilities supplemented by limited wholesale competition from independent power producers (IPPs). Georgia’s legislation enabling retail electric competition also predates other states’ by over two decades. While the Georgia Territorial Act allows for competition, it is quite limited. The law assigned exclusive service areas for most customers and allowed competition outside these areas, with few exceptions. As a result, new customers are granted a one-time choice if they have a load 900 kW, depending on where they are located and the ownership of electric infrastructure in the area. For example:

- Loads located outside municipal limits, or in a completely new municipality, can choose any supplier.
- In areas annexed to a municipality after March 29, 1973, the load can be served by any supplier that owns lines in the municipality.
- Where a supplier’s line (< 120 kV) crosses another supplier’s designated area, customers inside this corridor may be able to choose the utility that owns the service line.

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32 (EIA n.d.)

33 (National Conference of State Legislatures n.d.)

34 (Simmons 2018)
Figure 6 Georgia's electricity market has elements of both traditional and restructured markets.35
Illinois

Illinois At-A-Glance

<table>
<thead>
<tr>
<th>Competition Type: <strong>ALL</strong></th>
<th>Key Utilities: <strong>Ameren/ComEd/MidAmerican</strong></th>
<th>CCA Legislation: <strong>YES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO/RTO: <strong>PJM / MISO</strong></td>
<td>Customers (Rank): <strong>5,911,485 (#6)</strong></td>
<td>Net Metering: <strong>YES</strong></td>
</tr>
</tbody>
</table>

Timeline of Electric Competition in Illinois\(^{37}\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td></td>
</tr>
</tbody>
</table>
|      | Transition period ends January 1.  
|      | New rates go into effect on January 2, reflecting the unbundled delivery service rates and auction results.  
|      | State Attorney General files complaint against wholesale suppliers for market manipulation.  
|      | The Illinois Power Agency Act offers $1 billion in rate relief for customers. |
| 2010 |  
|      | Municipal aggregations are authorized where local governments aggregate load and solicit bids for the trading of electricity. |

\(^{36}\) (National Conference of State Legislatures n.d.)

\(^{37}\) (National Association of Regulatory Utility Commissioners n.d.)
Michigan

Michigan At-a-Glance

<table>
<thead>
<tr>
<th>Competition Type: LIMITED</th>
<th>Notable Utilities: DTE/Consumers</th>
<th>CCA Legislation: NO</th>
</tr>
</thead>
</table>

Timeline of Electric Competition in Michigan

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>The first competitive supplier is granted approval to serve customers in October.</td>
</tr>
<tr>
<td>1999</td>
<td>The Michigan Supreme Court rules that the Commission does not have the statutory authority to mandate electric choice in June.</td>
</tr>
<tr>
<td></td>
<td>DTE and Consumers voluntarily implement choice in September.</td>
</tr>
<tr>
<td>2000</td>
<td>Public Acts (PA) 141 and 142 are signed into law.</td>
</tr>
<tr>
<td></td>
<td>PA 141 allows customers to purchase electric supply from an alternative energy supplier at market rates, requires regulated utilities divest transmission facilities or join an RTO/ISO, and lowers residential rates 5% and freezing any future increases until 2006.</td>
</tr>
<tr>
<td></td>
<td>PA 142 allows Consumers and DTE to securitize stranded costs in bonds worth $2.2 billion.</td>
</tr>
<tr>
<td></td>
<td>In June, the Michigan Public Service Commission (MPSC) begins to develop the framework and guidelines for competition.</td>
</tr>
<tr>
<td>2004</td>
<td>DTE is authorized to collect $44 million in stranded-cost charges.</td>
</tr>
<tr>
<td>2008</td>
<td>Public Act 286 amends PA 141 and caps electric choice to 10% of the average weather-adjusted retail sales from the preceding year.</td>
</tr>
</tbody>
</table>

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38 (EIA n.d.)

39 (National Conference of State Legislatures n.d.)

40 (Public Sector Consultants 2006)

41 (Megginson 2010)
Prior to restructuring, Michigan's regulated rate structure was bundled, meaning the generation, transmission, and distribution charges were combined and into a single rate. Furthermore, the rate structure provided for a 10-20 percent subsidization of the residential class, primarily by the commercial class. This cross-subsidization persisted even after PA 141 restructured Michigan's electric market and would contribute to a perverse set of incentives enticing customers to participate in electric choice.

The premium regulated rates charged to commercial customers provided an immediate opportunity for retail electric suppliers to offer potential commercial customers savings. At a minimum, this savings could represent nothing more than the difference between the skewed rate and the actual cost of serving the customer. When combined with a bundled rate structure, this "savings" removed much of the transparency restructured markets can provide. However, PA 141 also lowered residential rates by 5 percent with a freeze on future rate increases until 2006.

When DTE and Consumers securitized and refinanced certain costs and assets to minimize stranded costs pursuant to PA 142, the savings generated by the financing activities were to be used to fund the residential rate decrease. But the refinancing of DTE's assets went much further, providing savings to also 1) reduce commercial and industrial rates by five percent and 2) fund a statewide Low Income and Energy Efficiency Fund up to $50 million per year, with approximately $20-30 million per year remaining.

The additional savings could have been treated in one of two ways: to lower the rates for full-service customers of regulated utilities or to create savings for choice customers. The latter was chosen, and resulted in the creation of two credits for choice customers:

1. A credit equivalent to the five percent rate reduction received by full-service customers.
2. A credit equal to the statutorily required securitization charge, which allowed choice customers to, in effect, waive a purportedly mandatory charge.

The elimination of these credits in 2004, along with an increase in the market price of electricity, caused some of the savings gained by switching to evaporate. Accordingly, many choice customers returned to the regulated utility. Even with the residential subsidy, the elimination of the credits and the increased price of electric generation meant that regulated rates were lower than the rates available to commercial customers with a retail supplier.

10 Percent Cap

Public Act 286 capped electric choice to 10% of the average weather-adjusted retail sales from the preceding year. Legislation in 2016 kept the cap at 10%, but with the following provisions:

- If a customer returns to the regulated utility, they cannot switch back to a retail supplier for six years.
- If market conditions change, and retail suppliers lose customers en masse to regulated utilities whereby the percentage of retail sales falls below 10 percent, that ratio becomes the cap for six years.

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42 (Public Sector Consultants 2006)
43 (Eggert 2016)
Figure 7 With the participation cap in place, less than half the customers wishing to switch are able.\textsuperscript{44}

\textsuperscript{44} (Michigan Public Service Commission 2018)
New York

New York At-A-Glance

<table>
<thead>
<tr>
<th>Competition Type: <strong>ALL</strong></th>
<th>Key Utilities: <strong>ConEd / PSEG / NYSEG</strong></th>
<th>CCA Legislation: <strong>YES</strong></th>
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</thead>
<tbody>
<tr>
<td>Transmission Organization: <strong>NY-ISO</strong></td>
<td>Customers (Rank): <strong>8,304,448 (#4)</strong></td>
<td>Net Metering: <strong>YES</strong></td>
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**Jurisdictional Issues: Zero Emissions Credits**

In competitive markets, nuclear generators have been under pressure from historically low natural gas prices and an increasing number of competitors offering low-cost renewables. In some cases, these nuclear generators' wholesale market revenues have been insufficient to keep plants economically viable and threatened their premature retirement. When a nuclear generator is retired, it removes a significant source of zero-carbon electricity, which requires state officials to address the resource mix to achieve environmental policies. This is a great cause for concern in many states, and New York, in particular, which has some of the country's most progressive environmental goals, ostensibly to combat climate change.

The New York State Energy Plan is targeting a 40% reduction in greenhouse gas emissions from 1990 levels by 2030, which would be challenging without nuclear sources of generation. To conform to the plan, the New York Public Service Commission adopted a requirement that the state's utilities purchase Zero Emissions Credits from nuclear facilities. This would create a completely separate market for zero-carbon electric generation from nuclear plants and provide the generators with the additional revenue such a market provides.

New York's wholesale market is regulated by FERC, however, and a group of power generators having to compete with nuclear plants filed a suit on October 19, 2016, asserting that the program puts out-of-state generators

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45 (EIA n.d.)
46 (National Conference of State Legislatures n.d.)
47 (Dennis, et al. 2016)
48 (New York State 2015)

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*Figure 3 Nuclear represents more than half New York's zero-carbon generation and more than a quarter of the total generation in the state. Source: EIA, 2018.*
at an unfair disadvantage and encroaches on FERC’s jurisdiction.

In 2017, U.S. District Court Judge Valerie Caproni ruled against the group of power generators, finding the program does not intrude on FERC’s jurisdiction over wholesale electricity markets and that states have the right to set environmental policies. The plaintiffs appealed but were denied by a 2nd Circuit decision on September 27, 2018.49

"To the extent the program distorts an efficient wholesale market, it does so by increasing revenues for qualifying nuclear plants, which in turn increases the supply of electricity, which in turn lowers auction clearing prices. But that is (at best) an incidental effect resulting from New York’s regulation of producers,” the court said in its decision.50

The U.S. 7th Circuit upheld a similar policy in Illinois, finding that the program doesn’t interfere in FERC’s authority because it does not require participating nuclear plants to operate in interstate markets. This is a critical distinction for a state subsidy program to survive similar court challenges.

In 2016, the Supreme Court ruled that a Maryland state subsidy program did violate FERC’s jurisdiction because it offered subsidies for plants only if they participated in PJM’s capacity market.51 The full text of the Supreme Court opinion is included as Appendix D.

49 (Siegel 2018)

50 (Hughes v. Talen Energy Mktg., LLC 2016)
Texas

Texas At-A-Glance

<table>
<thead>
<tr>
<th>Competition Type: MANDATORY</th>
<th>Key Utilities: Oncor/CenterPoint</th>
<th>CCA Legislation: NO</th>
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<tbody>
<tr>
<td>Transmission Organization: ERCOT</td>
<td>Customers (Rank): 12,865,659 (#2)</td>
<td>Net Metering: VOLUNTARY</td>
</tr>
</tbody>
</table>

Public Utility Commission of Texas

PUCT’s mission—"we protect customers, foster competition, and promote high quality infrastructure"—is notable in how it differs from that of other commissions. For deregulated customers, the PUCT has given itself a dual mandate to oversee competitive markets and enforce rules, with an emphasis on the resolution of consumer complaints.

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52 (National Conference of State Legislatures n.d.)
53 (Public Utility Commission of Texas n.d.)
Total Complaints Received by PUCT by Fiscal Year (Sept - Aug)

2001, 2002 figures taken from newspaper accounts.

Figure 10  The number of total complaints has steadily decreased over the past eight years.

Figure 9  Billing is responsible for half the complaints to PUCT.
Source: PUCT.
Virginia

Virginia At-A-Glance

<table>
<thead>
<tr>
<th>Competition Type: DISCONTINUED</th>
<th>Key Utilities: Dominion Energy</th>
<th>CCA Legislation: YES</th>
</tr>
</thead>
</table>

Recent Events

Virginia restructured its electricity market in 1999, but reversed course in 2007. The Virginia Energy Reform Coalition launched on May 7, 2019 and will be advocating for more consumer choice. The VERC’s member organizations include the Virginia Poverty Law Center, Virginia Institute for Public Policy, and the Reason Foundation.

It is worth noting that recent decisions by the SCC do not indicate a desire with that body to increase the number of customers eligible for competitive electric supply. In 2019, the SCC rejected bids by Costco, Walmart, and Sam’s Club that would allow them to seek service from retail electric providers under the rationale that Dominion’s captive customers, ostensibly small commercial and residential customers, would bear additional costs. The SCC estimated the impact at approximately $1.6 million in higher rates for the remaining utility customers but noted that these costs would likely rise over time.

The SCC stated that “the commission will not allow small customers who cannot escape this structure, predominantly small business and residential customers, to be further burdened by the identified cost-shifting that will occur if larger customers like Costco choose to seek better deals for themselves outside of Dominion’s system.”

54 (EIA n.d.)
55 (National Conference of State Legislatures n.d.)
56 (Martz 2019)
57 (Martz 2019)
Using EIA Data

This report contains data collected by the United States Energy Information Agency, which is the statistical arm of the US Department of Energy and is known to be impartial by most industry experts, academics, economists, and governmental agencies. The EIA has been collecting and disseminating energy-related information for all 50 states since its founding in 1977.58

EIA Price Calculation59

EIA gathers revenue and sales data from electricity providers in a given region. It then divides revenues in that region by the total amount of energy sold, resulting in a price per kWh or MWh. While this data does not distinguish between electricity and other non-energy benefits (such as incentives, gift cards, smart thermostats, etc.) received by consumers, the consistent use of total revenue in the numerator of the price calculation provides the most apples-to-apples comparison between electricity providers.

The use of EIA data in this manner results in the actual market outcomes customers have experienced as opposed to the average of theoretical offers available to customers. The availability of low-cost offers in a given area does not necessarily mean that all customers are qualified to take advantage of them.

58 (EIA n.d.)
59 (EIA n.d.)
Appendix C

Substitute Senate Bill No. 2
Public Act No. 14-75

AN ACT CONCERNING ELECTRIC CUSTOMER CONSUMER PROTECTION.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 16-245d of the 2014 supplement to the general statutes is repealed and the following is substituted in lieu thereof (Effective from passage):

(a) (1) The Public Utilities Regulatory Authority shall, by regulations adopted pursuant to chapter 54, develop a standard billing format that enables customers to compare pricing policies and charges among electric suppliers. The authority shall alter or repeal any relevant regulation in conjunction with the implementation of a redesigned standard billing format described in subdivision (2) of this subsection. The authority shall adopt regulations, in accordance with the provisions of chapter 54, to provide that an electric supplier, until July 1, 2012, may provide direct billing and collection services for electric generation services and related federally mandated congestion charges that such supplier provides to its customers with a maximum demand of not less than one hundred kilowatts that choose to receive a bill directly from such supplier and, on and after July 1, 2012, shall provide direct billing and collection services for electric generation services and related federally mandated congestion charges that such suppliers provide to their customers or may choose to obtain such billing and collection service through an electric distribution company and pay its pro rata share in accordance with the provisions of subsection (f) of section 16-244c. Any customer of an electric supplier, which is choosing to provide direct billing, who paid for the cost of billing and other services to an electric distribution company shall receive a credit on their monthly bill.

(2) On or before July 1, 2014, the authority shall initiate a docket to redesign (A) the standard billing format for residential customers implemented pursuant to subdivision (1) of this subsection to better enable such residential customers to compare pricing policies and charges among electric suppliers, and (B) the account summary page of a residential customer located on the electric distribution company's Internet web site. The authority shall issue a final decision on such docket not later than six months after its initiation. Such final decision shall include the placement of the following items on the first page of each residential customer's bill from an electric distribution company pursuant to subdivision (4) of this subsection: (i) The electric generation service rate; (ii) the term and
expiration date of such rate; (iii) any change to such rate effective for the next billing cycle; (iv) the cancellation fee, if applicable, provided there is such a change; (v) notification that such rate is variable, if applicable; (vi) the standard service rate; (vii) the term and expiration date of the standard service rate; (viii) the dollar amount that would have been billed for the electric generation services component had the customer been receiving standard service; and (ix) an electronic link or Internet website address to the rate board Internet website described in section 16-244d, as amended by this act, and the toll-free telephone number and other information necessary to enable the customer to obtain standard service. Such final decision shall also include the feasibility of (I) an electric distribution company transferring a residential customer receiving electric generation service from an electric supplier to a different electric supplier in a timely manner and ensuring that the electric distribution company and the relevant electric suppliers provide timely information to each other to facilitate such transfer, and (II) allowing residential customers to choose how to receive information related to bill notices, including United States mail, electronic mail, text message, an application on a cellular telephone or a third-party notification service approved by the authority.

On or before July 1, 2015, the authority shall implement, or cause to be implemented, the redesigned standard billing format and Internet website for a customer's account summary. On or before July 1, 2020, and every five years thereafter, the authority shall reopen such docket to ensure the standard billing format and Internet website for a customer's account summary remains a useful tool for customers to compare pricing policies and charges among electric suppliers.

[(1)] (3) An electric supplier that chooses to provide billing and collection services shall, in accordance with the billing format developed by the authority, include the following information in each customer's bill: (A) The total amount owed by the customer, which shall be itemized to show (i) the electric generation services component and any additional charges imposed by the electric supplier, and (ii) federally mandated congestion charges applicable to the generation services; (B) any unpaid amounts from previous bills, which shall be listed separately from current charges; (C) the rate and usage for the current month and each of the previous twelve months in bar graph format or other visual format; (D) the payment due date; (E) the interest rate applicable to any unpaid amount; (F) the toll-free telephone number of the Public Utilities Regulatory Authority for questions or complaints; and (G) the toll-free telephone number and address of the electric supplier. On or before October 1, 2013, the authority shall conduct a review of the costs and benefits of suppliers billing for all components of electric service, and report, in accordance with the provisions of section 11-4a, to the joint standing committee of the General Assembly having cognizance of matters relating to energy regarding the results of such review. Any such report may be submitted electronically.

[(2)] (4) An electric distribution company shall, in accordance with the billing format developed by the authority, include the following information in each customer's bill: (A) The total amount owed by the customer, which shall be itemized to show, (i) the electric generation services component if the customer obtains standard service or last resort service from the electric distribution company, (ii) the distribution charge, including all applicable taxes and the systems benefits charge, as provided in section 16-245t, (iii) the transmission rate as adjusted pursuant to subsection (d) of section 16-19b, (iv) the competitive transition assessment, as provided in section 16-245g, (v) federally mandated congestion charges, and (vi) the conservation and renewable energy charge, consisting of the conservation and load management program charge, as provided in section 16-245m, and the renewable energy investment charge, as provided in section 16-245n; (B) any unpaid amounts from previous bills which shall be listed separately from current charges; (C) except for customers subject to a demand charge, the rate and usage for the current month and each of the previous twelve months in the form of a bar graph or other visual form; (D) the
payment due date; (E) the interest rate applicable to any unpaid amount; (F) the toll-free telephone number of the electric distribution company to report power losses; (G) the toll-free telephone number of the Public Utilities Regulatory Authority for questions or complaints; and (H) if a customer has a demand of five hundred kilowatts or less during the preceding twelve months, a statement about the availability of information concerning electric suppliers pursuant to section 16-245p.

[(b) The regulations shall provide guidelines for determining until October 1, 2011, the billing relationship between the electric distribution company and electric suppliers, including, but not limited to, the allocation of partial bill payments and late payments between the electric distribution company and the electric supplier. ]

(b) An electric distribution company that provides billing services for an electric supplier shall be entitled to recover from the electric supplier all reasonable transaction costs to provide such billing services as well as a reasonable rate of return, in accordance with the principles in subsection (a) of section 16-19e.

(c) From the effective date of this section, and until one year after the effective date of this section, inclusive, each electric distribution company shall, on a quarterly basis, include the following items in a bill insert to each residential customer who obtains standard service or electric generation service from an electric supplier: (1) The electric generation service rate; (2) the term and expiration date of such rate; (3) any change to the standard service rate not later than forty-five days after the standard rate is approved by the authority; and (4) before any reference to the term "standard service", the name of the electric distribution company.

(d) From the effective date of this section, and until one year after the effective date of this section, inclusive, each electric supplier shall, on a quarterly basis, include the following items in a mailing to each residential customer receiving electric generation service from such supplier: (1) The electric generation service rate; (2) the term and expiration date of such rate; (3) any change to such rate effective for the next billing cycle; (4) the cancellation fee, if applicable, provided there is such a change; (5) notification that such rate is variable, if applicable; (6) the standard service rate; (7) the term and expiration date of the standard service rate; and (8) the dollar amount that would have been billed for the electric generation services component had the customer been receiving standard service.

(e) On and after July 1, 2015, if a residential customer is enrolled in automatic electronic bill payments and does not receive a bill through United States mail, an electric distribution company shall send such customer a link to such customer's bill in electronic mail with confirmation of bill payment.

Sec. 2. Subsection (g) of section 16-245 of the 2014 supplement to the general statutes is repealed and the following is substituted in lieu thereof (Effective July 1, 2014):

(g) As conditions of continued licensure, in addition to the requirements of subsection (c) of this section: (1) The licensee shall comply with the National Labor Relations Act and regulations, if applicable; (2) the licensee shall comply with the Connecticut Unfair Trade Practices Act and applicable regulations; (3) each generating facility operated by or under long-term contract to the licensee shall comply with regulations adopted by the Commissioner of Energy and Environmental Protection, pursuant to section 22a-174j; (4) the licensee shall comply with the portfolio standards, pursuant to section 16-245a; (5) the licensee shall be a member of the New England Power Pool or its successor or have a contractual relationship with one or more entities who are members of the New England Power Pool or its successor and the licensee shall comply with the rules of the regional independent system operator.
and standards and any other reliability guidelines of the regional independent systems operator; (6) the licensee shall agree to cooperate with the authority and other electric suppliers in the event of an emergency condition that may jeopardize the safety and reliability of electric service; (7) the licensee shall comply with the code of conduct established pursuant to section 16-244h; (8) for a license to a participating municipal electric utility, the licensee shall provide open and nondiscriminatory access to its distribution facilities to other licensed electric suppliers; (9) the licensee or the entity or entities with whom the licensee has a contractual relationship to purchase power shall be in compliance with all applicable licensing requirements of the Federal Energy Regulatory Commission; (10) each generating facility operated by or under long-term contract to the licensee shall be in compliance with chapter 277a and state environmental laws and regulations; (11) the licensee shall comply with the renewable portfolio standards established in section 16-245a; (12) the licensee shall offer a time-of-use price option to customers. Such option shall include a two-part price that is designed to achieve an overall minimization of customer bills by encouraging the reduction of consumption during the most energy intense hours of the day. The licensee shall file its time-of-use rates with the Public Utilities Regulatory Authority; [and] (13) the licensee shall acknowledge that it is subject to chapters 208, 212, 212a and 219, as applicable, and the licensee shall pay all taxes it is subject to in this state; (14) the licensee shall make available to the authority for posting on the authority's Internet web site and shall list on the licensee's own Internet web site, on a monthly basis, the highest and lowest electric generation service rate charged by the licensee as part of a variable rate offer in each of the preceding twelve months to any customer eligible for standard service; and (15) any contract between a licensee and a residential customer eligible for standard service entered into on and after the effective date of this section shall provide for the same electric generation service rate that may not be exceeded for at least the first three billing cycles of the contract, provided the licensee may decrease such rate at any time. Also, as a condition of licensure, the authority shall prohibit each licensee from declining to provide service to customers for the reason that the customers are located in economically distressed areas. The authority may establish additional reasonable conditions to assure that all retail customers will continue to have access to electric generation services.

Sec. 3. Subsection (i) of section 16-244c of the general statutes is amended by adding subdivisions (6) and (7) as follows (Effective from passage):

(NEW) (6) An electric distribution company shall transfer a residential customer to the standard service rate not later than seventy-two hours after receipt of a request from a residential customer eligible for standard service, provided such customer shall remain on the standard service rate for at least the remainder of that billing cycle. An electric distribution company shall transfer a residential customer to the electric generation service rate of an electric supplier not later than forty-five days after the electric distribution company receives from the electric supplier a successful enrollment of such residential customer.

(NEW) (7) Notwithstanding any other provision of the general statutes, nothing shall prohibit a residential customer who moves from one dwelling to another dwelling within the state from immediately receiving electric generation service from an electric supplier, provided such customer was receiving such service from an electric supplier immediately prior to such move.

Sec. 4. Section 16-245o of the 2014 supplement to the general statutes is repealed and the following is substituted in lieu thereof (Effective from passage):
(a) To protect a customer's right to privacy from unwanted solicitation, each electric company or electric distribution company, as the case may be, shall distribute to each customer a form approved by the Public Utilities Regulatory Authority which the customer shall submit to the customer's electric or electric distribution company in a timely manner if the customer does not want the customer's name, address, telephone number and rate class to be released to electric suppliers. [On and after July 1, 1999, each] Each electric or electric distribution company, as the case may be, shall make available to all electric suppliers customer names, addresses, telephone numbers, if known, and rate class, unless the electric company or electric distribution company has received a form from a customer requesting that such information not be released. Additional information about a customer for marketing purposes shall not be released to any electric supplier unless a customer consents to a release by one of the following: (1) An independent third-party telephone verification; (2) receipt of a written confirmation received in the mail from the customer after the customer has received an information package confirming any telephone agreement; (3) the customer signs a document fully explaining the nature and effect of the release; or (4) the customer's consent is obtained through electronic means, including, but not limited to, a computer transaction.

(b) All electric suppliers shall have equal access to customer information required to be disclosed under subsection (a) of this section. No electric supplier shall have preferential access to historical distribution company customer usage data.

(c) No electric or electric distribution company shall include in any bill or bill insert anything that directly or indirectly promotes a generation entity or affiliate of the electric distribution company. No electric supplier shall include a bill insert in an electric bill of an electric distribution company.

(d) All marketing information provided pursuant to the provisions of this section shall be formatted electronically by the electric company or electric distribution company, as the case may be, in a form that is readily usable by standard commercial software packages. Updated lists shall be made available within a reasonable time, as determined by the authority, following a request by an electric supplier. Each electric supplier seeking the information shall pay a fee to the electric company or electric distribution company, as the case may be, which reflects the incremental costs of formatting, sorting and distributing this information, together with related software changes. Customers shall be entitled to any available individual information about their loads or usage at no cost.

(e) On or before January 1, 2015, the Public Utilities Regulatory Authority shall initiate a contested proceeding to develop a standard summary form of the material terms and conditions of the contract for electric generation services signed by a residential customer. Such form shall include, but not be limited to, the following: (1) A description of the rate the customer will be paying; (2) whether such rate is a fixed or variable rate; (3) the term and expiration date of such rate; (4) whether the contract will automatically renew; (5) a notice describing the customer's right to cancel the service, as provided in this section; (6) information on air emissions and resource mix of generation facilities operated by and under long-term contract to the supplier; (7) the trade name of the electric supplier; (8) the toll-free telephone number for customer service of the electric supplier; (9) the Internet web site of the electric supplier; and (10) the toll-free telephone number for customer complaints of the authority.

(f) (1) Until January 1, 2015, each electric supplier shall, prior to the initiation of electric generation services, provide the potential residential customer with a written notice describing the rates, information on air emissions and resource mix of generation facilities operated by and under long-term contract to the supplier, terms
and conditions of the service, and a notice describing the customer's right to cancel the service, as provided in this
section. On and after January 1, 2015, each electric supplier shall, prior to initiation of electric generation services,
provide the potential residential customer with a completed summary form developed pursuant to subsection (e) of
this section. Each electric supplier shall, prior to the initiation of electric generation services, provide the potential
commercial or industrial customer with a written notice describing the rates, information on air emissions and
resource mix of generation facilities operated by and under long-term contract to the supplier, terms and conditions
of the service, and a notice describing the customer's right to cancel the service, as provided in this section.

(2) No electric supplier shall provide electric generation services unless the customer has signed a service contract
or consents to such services by one of the following: (1) (A) An independent third-party telephone verification;
(2) (B) receipt of a written confirmation received in the mail from the customer after the customer has received
an information package confirming any telephone agreement; (3) (C) the customer signs a contract that conforms
with the provisions of this section; or (4) (D) the customer's consent is obtained through electronic means,
including, but not limited to, a computer transaction. Each electric supplier shall provide each customer with a
demand of less than one hundred kilowatts, a written contract that conforms with the provisions of this section and
maintain records of such signed service contract or consent to service for a period of not less than two years from
the date of expiration of such contract, which records shall be provided to the authority or the customer upon request.
Each contract for electric generation services shall contain all material terms of the agreement, a clear and
conspicuous statement explaining the rates that such customer will be paying, including the circumstances under
which the rates may change, a statement that provides specific directions to the customer as to how to compare the
price term in the contract to the customer's existing electric generation service charge on the electric bill and how
long those rates are guaranteed. Such contract shall also include a clear and conspicuous statement providing the
customer's right to cancel such contract not later than three days after signature or receipt in accordance with the
provisions of this subsection, describing under what circumstances, if any, the supplier may terminate the contract
and describing any penalty for early termination of such contract. Each contract shall be signed by the customer, or
otherwise agreed to in accordance with the provisions of this subsection. A customer who has a maximum demand
of five hundred kilowatts or less shall, until midnight of the third business day after the latter of the day on which
the customer enters into a service agreement or the day on which the customer receives the written contract from
the electric supplier as provided in this section, have the right to cancel a contract for electric generation services
entered into with an electric supplier.

[(f) (g) (1) Between thirty and sixty days, inclusive, prior to the expiration of a fixed price term for a residential
customer, an electric supplier shall provide a written notice to such customer of any change to the customer's electric
generation price. Such residential customer shall select the method of written notice at the time the contract is signed
or verified through third-party verification as described in subdivision (2) of subsection (f) of this section. Such
selection shall include the option for written notice through United States mail, electronic mail, text message, an
application on a cellular telephone or a third-party notification service approved by the authority. Such customer
shall have the option to change the method of notification at any time during the contract.

(2) No electric supplier shall charge a residential customer month-to-month variable rates for electric generation
services following the expiration of a contract entered into after the effective date of this section without providing
written notification to such residential customer forty-five days prior to the commencement of such month-to-month
variable rates. Such notice shall include the highest and lowest electric generation service rate charged by such supplier as part of a variable rate offer in each of the preceding twelve months to any customer eligible for standard service. The residential customer shall select the method of written notification at the time the contract is signed or verified through third-party verification as described in subdivision (2) of subsection (f) of this section. Such selection shall include the option for written notice through United States mail, electronic mail, text messages, an application on a cellular telephone or a third-party notification service approved by the authority. Such customer shall have the option to change the method of notification at any time during the contract.

(3) No electric supplier shall charge an electric generation service rate to a residential customer that is twenty-five per cent more than (A) the original contract price, or (B) the last rate notification provided by the electric supplier, without disclosing the rate change described in subparagraph (A) or (B) of this subdivision fifteen days before it takes effect. The notification shall be provided pursuant to the method agreed to by the customer in the contract and may include written notice through United States mail, electronic mail, text message, an application on a cellular telephone, or third-party notification service approved by the authority.

(h)(1) Any third-party agent who contracts with or is otherwise compensated by an electric supplier to sell electric generation services shall be a legal agent of the electric supplier. No third-party agent may sell electric generation services on behalf of an electric supplier unless (A) the third-party agent is an employee or independent contractor of such electric supplier, and (B) the third-party agent has received appropriate training directly from such electric supplier.

(2) [On or after July 1, 2011, all] All sales and solicitations of electric generation services by an electric supplier, aggregator or agent of an electric supplier or aggregator to a customer with a maximum demand of one hundred kilowatts or less conducted and consummated entirely by mail, door-to-door sale, telephone or other electronic means, during a scheduled appointment at the premises of a customer or at a fair, trade or business show, convention or exposition in addition to complying with the provisions of subsection (e) of this section shall:

(A) For any sale or solicitation, including from any person representing such electric supplier, aggregator or agent of an electric supplier or aggregator (i) identify the person and the electric generation services company or companies the person represents; (ii) provide a statement that the person does not represent an electric distribution company; (iii) explain the purpose of the solicitation; and (iv) explain all rates, fees, variable charges and terms and conditions for the services provided; and

(B) For door-to-door sales to customers with a maximum demand of one hundred kilowatts, which shall include the sale of electric generation services in which the electric supplier, aggregator or agent of an electric supplier or aggregator solicits the sale and receives the customer's agreement or offer to purchase at a place other than the seller's place of business, be conducted (i) in accordance with any municipal and local ordinances regarding door-to-door solicitations, (ii) between the hours of ten o'clock a.m. and six o'clock p.m. unless the customer schedules an earlier or later appointment, and (iii) with both English and Spanish written materials available. Any representative of an electric supplier, aggregator or agent of an electric supplier or aggregator shall prominently display or wear a photo identification badge stating the name of such person's employer or the electric supplier the person represents and shall not wear apparel, carry equipment or distribute materials that includes the logo or
emblem of an electric distribution company or contains any language suggesting a relationship that does not exist with an electric distribution company, government agency or other supplier.

(3) No electric supplier, aggregator or agent of an electric supplier or aggregator shall (A) advertise or disclose the price of electricity to mislead a reasonable person into believing that the electric generation services portion of the bill will be the total bill amount for the delivery of electricity to the customer's location, or (B) make any statement, oral or written, suggesting a prospective customer is required to choose a supplier. When advertising or disclosing the price for electricity, the electric supplier, aggregator or agent of an electric supplier or aggregator shall [(A)] (i) disclose the electric distribution company's current charges, including the competitive transition assessment and the systems benefits charge, for that customer class, and [(B) on and after January 1, 2014.] (ii) indicate, using at least a ten-point font size, in a conspicuous part of any advertisement or disclosure that includes an advertised price, (I) the expiration of such advertised price, and (II) any fixed or recurring charge, including, but not limited to, any minimum monthly charge.

(4) No entity, including an aggregator or agent of an electric supplier or aggregator, who sells or offers for sale any electric generation services for or on behalf of an electric supplier, shall engage in any deceptive acts or practices in the marketing, sale or solicitation of electric generation services.

(5) Each electric supplier shall disclose to the Public Utilities Regulatory Authority in a standardized format (A) the amount of additional renewable energy credits, if any, such supplier will purchase other than required credits, (B) where such additional credits are being sourced from, and (C) the types of renewable energy sources that will be purchased. Each electric supplier shall only advertise renewable energy credits purchased beyond those required pursuant to sections 16-245a and 16-243q and shall report to the authority the renewable energy sources of such credits and any changes to the types of renewable energy sources offered.

(6) Any electric supplier offering any services or products that contain renewable energy attributes other than the minimum renewable energy credits used for compliance with the renewable portfolio standards pursuant to section 16-245a shall disclose in each customer contract and marketing materials for each such service or product the renewable energy content of the product or service offering and shall make available, on the electric supplier's Internet website, information sufficient to substantiate the marketing claims about such content.

(7) (A) No contract for electric generation services by an electric supplier shall require a residential customer to pay any fee for termination or early cancellation of a contract in excess of [(A) one hundred fifty dollars, or (B) twice the estimated bill for energy services for an average month, whichever is less,] provided when an electric supplier offers a contract, it provides the residential customer an estimate of such customer's average monthly bill, and provided further it shall not be considered a termination or early cancellation of a contract if a residential customer moves from one dwelling within the state and remains with the same electric supplier.

(B) If a residential customer does not have a contract for electric generation services with an electric supplier and is receiving a month-to-month variable rate from such supplier, there shall be no fee for termination or early cancellation.

(8) An electric supplier shall not make a material change in the terms or duration of any contract for the provision of electric generation services by an electric supplier without the express consent of the customer. Nothing in this
subdivision shall restrict an electric supplier from renewing a contract by clearly informing the customer, in writing, not less than thirty days or more than sixty days before the renewal date, of the renewal terms, including a summary of any new or altered terms, and of the option not to accept the renewal offer, provided no fee pursuant to subdivision (7) of this [section] subsection shall be charged to a customer who terminates or cancels such renewal not later than seven business days after receiving the first billing statement for the renewed contract.

(9) Each electric supplier shall file annually with the authority a list of any aggregator or agent working on behalf of such supplier.

(10) Each electric supplier shall develop and implement standards and qualifications for employees and third-party agents who are engaged in the sale or solicitation of electric generation services by such supplier.

[(h)] (i) Each electric supplier, aggregator or agent of an electric supplier or aggregator shall comply with the provisions of the telemarketing regulations adopted pursuant to 15 USC 6102.

[(i)] (j) Any violation of this section shall be deemed an unfair or deceptive trade practice under subsection (a) of section 42-1 lob. Any contract for electric generation services that the authority finds to be the product of unfair or deceptive marketing practices or in material violation of the provisions of this section shall be void and unenforceable. Any waiver of the provisions of this section by a customer of electric generation services shall be deemed void and unenforceable by the electric supplier.

[(j)] (k) Any violation or failure to comply with any provision of this section shall be subject to (1) civil penalties by the authority in accordance with section 16-41, (2) the suspension or revocation of an electric supplier or aggregator's license, or (3) a prohibition on accepting new customers following a hearing that is conducted as a contested case in accordance with chapter 54.

[(k)] (l) (1) The authority may adopt regulations, in accordance with the provisions of chapter 54, to include, but not be limited to, abusive switching practices, solicitations and renewals by electric suppliers, provided the authority shall alter or repeal any relevant regulations in conjunction with the development and implementation of the standards and practices described in subdivision (2) of this subsection.

(2) On or before July 1, 2014, the authority shall initiate a contested proceeding to develop and implement, or cause to be implemented, standards relating to abusive switching practices, solicitations and renewals by electric suppliers, the hiring and training of sales representatives, door-to-door sales and telemarketing practices by electric suppliers. Such docket shall examine a disclosure statement for all electric suppliers to use on all promotional materials directed to residential customers that will direct consumers where they can find the highest and lowest electric generation service rate charged by such supplier as part of a variable rate offer in each of the preceding twelve months to any customer eligible for standard service. The authority shall issue a final decision on such docket not later than six months after its initiation.

(m) The Public Utilities Regulatory Authority may initiate a docket to review the feasibility, costs and benefits of placing on standard service all customers of all electric suppliers (1) who are hardship cases for purposes of subdivision (3) of subsection (b) of section 16-262c, (2) having moneys due and owing deducted from such customers' bills by the electric distribution company pursuant to subdivision (4) of subsection (b) of section 16-
262c, (3) receiving other financial assistance from an electric distribution company, or (4) who are otherwise protected by law from shut off of electricity services. Notwithstanding the provisions of section 16-245r, the authority may, in a final decision issued pursuant to this subsection, order all such customers to be placed on standard service. If the authority issues such an order, it shall reopen such docket not less than every two years.

Sec. 5. Section 16-244d of the 2014 supplement to the general statutes is repealed and the following is substituted in lieu thereof (Effective from passage):

(a) The Public Utilities Regulatory Authority, in consultation with the Office of Consumer Counsel, shall establish a program for the dissemination of information regarding electric suppliers. Such program shall require electric distribution companies to distribute an informational summary on electric suppliers to any new customer and to existing customers beginning on January 1, 2004, and semiannually thereafter. Such informational summary shall be developed by the authority and shall include, but not be limited to, the name of each licensed electric supplier, the state where the supplier is based, information on whether the supplier has active offerings for either residential or commercial and industrial consumers, the telephone number and Internet [address] web site of the supplier, and information as to whether the supplier offers electric generation services from renewable energy sources in excess of the portfolio standards established pursuant to section 16-245a. The authority shall include pricing information in the informational summary to the extent the authority determines feasible. The authority shall post the informational summary in a conspicuous place on its Internet web site and provide electronic links to the Internet web site of each supplier. The authority shall update the informational summary on its Internet web site on at least a quarterly basis.

(b) (1) On or before October 1, 2014, the authority shall redesign the rate board Internet web site to better enable customers to compare pricing policies and charges among electric suppliers. Such redesign shall (A) reflect the best practices of similar rate board Internet web sites in other states and the development of a process to remove an electric supplier's price listings from such Internet web site based on protocols established by the authority to ensure compliance with this chapter and to address customer complaints, and (B) emphasize (i) uniformity in how electric suppliers provide information for each category on the rate board Internet web site, (ii) ease of use by customers, and (iii) ease of selecting and purchasing a specific contract from an electric supplier shown on the rate board Internet web site.

(2) On or before July 1, 2017, and every two years thereafter, the authority shall review the rate board Internet web site and to make any improvements to ensure such Internet web site remains a progressive tool for customers to compare pricing policies and charges among electric suppliers.

Sec. 6. Section 16-245u of the general statutes is repealed and the following is substituted in lieu thereof (Effective September 1, 2014):

(a) The Public Utilities Regulatory Authority shall monitor the market for electric generation services and electric distribution services to end use customers and take actions to prevent unfair or deceptive trade practices, anticompetitive or discriminatory conduct, and the unlawful exercise of market power.

(b) (1) Upon complaint or upon its own motion, for cause shown, the authority shall conduct an investigation of any possible anticompetitive or discriminatory conduct affecting the retail sale of electricity or any unfair or
deceptive trade practices. Such investigations may include, but are not limited to, (A) the effect of mergers, consolidations, acquisition and disposition of assets or securities of electric suppliers, as defined in section 16-1, or transmission congestion on the proper functioning of a fully competitive market, or (B) targeting, with an artificially elevated electric generation services rate, a customer eligible for standard service who is (i) a hardship case for purposes of subdivision (3) of subsection (b) of section 16-262c, (ii) having moneys due and owing deducted from such customer's bill by the electric distribution company pursuant to subdivision (4) of subsection (b) of section 16-262c, (iii) receiving other financial assistance from an electric distribution company, or (iv) otherwise protected by law from shut off of electricity services.

(2) The authority may require an electric supplier to provide information, including documents and testimony, in accordance with the procedures contained in subsection (a) of section 16-8 and section 16-8c.

(3) Confidential, proprietary or trade secret information provided under this section may be submitted under a duly granted protective order. Any hearings that may be held during the course of the investigation may also be conducted in camera to prevent the inadvertent revelation of such confidential information.

(4) The [Office] office of the Attorney General and the Office of Consumer Counsel shall have the right to participate in such investigations under appropriate nondisclosure agreements.

(5) At the conclusion of the investigation, and notwithstanding any previously granted protective orders, if the authority finds that facts exist that indicate any violation of state or federal law, it shall transmit such written findings along with supporting information gathered in its investigation to appropriate enforcement officials. Such referrals may recommend that further investigation be made or that immediate enforcement procedures be initiated. Such referrals may be made to the [Office] office of the Attorney General, the Department of Consumer Protection, the United States Department of Justice, the Securities and Exchange Commission, the Federal Energy Regulatory Commission, or any other appropriate enforcement agency. The authority may intervene as permitted by law in any proceeding initiated under this subsection. The results of such investigations may also serve as a basis for authority sanctions, after notice and hearing, under subsection (l) of section 16-245.

(c) Nothing contained in this section shall be construed so as to restrict the right of any person to pursue any other remedy available to the person under law.

Approved June 3, 2014
Appendix D

Nos. 14-614

SUPREME COURT OF THE UNITED STATES

Hughes v. Talen Energy Mktg., LLC

136 S. Ct. 1288 (2016) • 194 L. Ed. 2d 414

Decided Apr 19, 2016

Justice GINSBURG delivered the opinion of the Court.

The Federal Power Act (FPA), 41 Stat. 1063, as amended, 16 U.S.C. § 791a et seq., vests in the Federal Energy Regulatory Commission (FERC) exclusive jurisdiction over wholesale sales of electricity in the interstate market. FERC's regulatory scheme includes an auction-based market mechanism to ensure wholesale rates that are just and reasonable. FERC's scheme, in Maryland's view, provided insufficient incentive for new electricity generation in the State. Maryland therefore enacted its own regulatory program. Maryland's program provides subsidies, through state-mandated contracts, to a new generator, but conditions receipt of those subsidies on the new generator selling capacity into a FERC-regulated wholesale auction. In a suit initiated by competitors of Maryland's new electricity generator, the Court of Appeals for the Fourth Circuit held that Maryland's scheme impermissibly intrudes upon the wholesale electricity market, a domain Congress reserved to FERC alone. We affirm the Fourth Circuit's judgment.

I

A

Under the FPA, FERC has exclusive authority to regulate "the sale of electric energy at wholesale in interstate commerce." § 824(b)(1). A wholesale sale is defined as a "sale of electric energy to any person for resale." § 824(d). The FPA assigns to FERC responsibility for ensuring that "[all] rates and charges made, demanded, or received by any public utility for or in connection with the transmission or sale of electric energy subject to the jurisdiction of the Commission ... shall be just and reasonable." § 824(a). See also § 824(a) (if a rate or charge is found to be unjust or unreasonable, "the Commission shall determine the just and reasonable rate"). "But the law places beyond FERC's power, and leaves to the States alone, the regulation of 'any other sale'—most notably, any retail sale—of electricity." FERC v. Electric Power Supply Assn., 577 U.S. ——, ——, 136 S. Ct. 760, 766, 193 L.Ed.2d 661 (2016) (EPSA) (quoting § 824(b)). The States' reserved authority includes control over in-state "facilities used for the generation of electric energy." § 824(b)(1); see Pacific Gas & Elec. Co. v. State Energy Resources Conservation and Development Comm'n, 461 U.S. 190, 205, 103 S.Ct. 1713, 75 L.Ed.2d 752 (1983) ("Need for new power facilities, their economic feasibility, and rates and services, are areas that have been characteristically governed by the States.").
"Since the FPA's passage, electricity has increasingly become a competitive interstate business, and FERC's role has evolved accordingly." EPSA, 577 U.S., at ——, 136 S.Ct., at 768. Until relatively recently, most state energy markets were vertically integrated monopolies—i.e., one entity, often a state utility, controlled electricity generation, transmission, and sale to retail consumers. Over the past few decades, many States, including Maryland, have deregulated their energy markets. In deregulated markets, the organizations that deliver electricity to retail consumers—often called "load serving entities" (LSEs)—purchase that electricity at wholesale from independent power generators. To ensure reliable transmission of electricity from independent generators to LSEs, FERC has charged nonprofit entities, called Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs), with managing certain segments of the electricity grid.

 Interstate wholesale transactions in deregulated markets typically occur through two mechanisms. The first is bilateral contracting: LSEs sign agreements with generators to purchase a certain amount of electricity at a certain rate over a certain period of time. After the parties have agreed to contract terms, FERC may review the rate for reasonableness. See Morgan Stanley Capital Group Inc. v. Public Util. Dist. No. 1 of Snohomish Cty., 554 U.S. 527, 546–548, 128 S.Ct. 2733, 171 L.Ed.2d 607 (2008) (Because rates set through good-faith arm's-length negotiation are presumed reasonable, "FERC may abrogate a valid contract only if it harms the public interest."). Second, RTOs and ISOs administer a number of competitive wholesale auctions: for example, a "same-day auction" for immediate delivery of electricity to LSEs facing a sudden spike in demand; a "next-day auction" to satisfy LSEs' anticipated near-term demand; and a "capacity auction" to ensure the availability of an adequate supply of power at some point far in the future.

These cases involve the capacity auction administered by PJM Interconnection (PJM), an RTO that oversees the electricity grid in all or parts of 13 mid-Atlantic and Midwestern States and the District of Columbia. The PJM capacity auction functions as follows. PJM predicts electricity demand three years ahead of time, and assigns a share of that demand to each participating LSE. Owners of capacity to produce electricity in three years' time bid to sell that capacity to PJM at proposed rates. PJM accepts bids, beginning with the lowest proposed rate, until it has purchased enough capacity to satisfy projected demand. No matter what rate they listed in their original bids, all accepted capacity sellers receive the highest accepted rate, which is called the "clearing price."1 LSEs then must purchase from PJM, at the clearing price, enough electricity to satisfy their PJM-assigned share of overall projected demand. The capacity auction serves to identify need for new generation: A high clearing price in the capacity auction encourages new generators to enter the market, increasing supply and thereby lowering the clearing price in same-day and next-day auctions three years' hence; a low clearing price discourages new entry and encourages retirement of existing high-cost generators.2

1 For example, if four power plants bid to sell capacity at, respectively, $10/unit, $20/unit, $30/unit, and $40/unit, and the first three plants provide enough capacity to satisfy projected demand, PJM will purchase capacity only from those three plants, each of which will receive $30/unit, the clearing price.

2 Because PJM operates the electricity grid in a very large region of the country, PJM divides its overall grid into geographic subregions and makes adjustments to the clearing price to reflect operating conditions in those subregions. For instance, PJM may pay a higher rate in or near areas where transmission-line congestion limits the amount of electricity that can be imported from other areas. The elevated clearing price might encourage a company to site a new power plant in a subregion where the need for local generation is great rather than elsewhere in PJM's grid.
The auction is designed to accommodate long-term bilateral contracts for capacity. If an LSE has acquired a certain amount of capacity through a long-term bilateral contract with a generator, the LSE—not the generator—is considered the owner of that capacity for purposes of the auction. The LSE sells that capacity into the auction, where it counts toward the LSE’s assigned share of PJM-projected demand, thereby reducing the net costs of the LSE’s required capacity purchases from PJM. LSEs generally bid their capacity into the auction at a price of $0, thus guaranteeing that the capacity will clear at any price. Such bidders are called “price takers.” Because the fixed costs of building generating facilities often vastly exceed the variable costs of producing electricity, many generators also function as price takers.

3 To take a simplified example, assume an LSE has signed a long-term bilateral contract with a generator to purchase 50 units of electricity annually at a price of $40/unit (total annual cost: $2,000). In a given year when the auction clearing price is $50/unit, assume PJM requires the LSE to purchase 100 units of electricity to satisfy its share of projected demand. The LSE bids the 50 units of capacity it already owns into the PJM auction, and PJM pays the LSE $2,500 for those 50 units. Although the LSE then must pay PJM $5,000 for the 100 units it must purchase to satisfy projected demand, the net cost to the LSE of auction participation is only $2,500. Note that the effective price the LSE pays for 50 of the 100 units it must purchase from PJM—the amount purchased through the long-term contract—is the contract price, not the clearing price. That is, the LSE pays the utility $2,000 for 50 units of capacity, receives $2,500 from PJM after selling that capacity into the auction, and then pays $2,500 to PJM to purchase 50 units of capacity, resulting in a net cost of $2,000—the contract price—for those 50 units. The LSE, of course, must pay the full clearing price—$50/unit—for the other 50 units it is obliged to purchase to satisfy its full share of projected demand.

FERC extensively regulates the structure of the PJM capacity auction to ensure that it efficiently balances supply and demand, producing a just and reasonable clearing price. See EPSA, 577 U.S., at ——, 136 S.Ct., at 769 (the clearing price is "the price an efficient market would produce"). Two FERC rules are particularly relevant to these cases. First, the Minimum Offer Price Rule (MOPR) requires new generators to bid capacity into the auction at or above a price specified by PJM, unless those generators can prove that their actual costs fall below the MOPR price. Once a new generator clears the auction at the MOPR price, PJM deems that generator an efficient entrant and exempts it from the MOPR going forward, allowing it to bid its capacity into the auction at any price it elects, including $0. Second, the New Entry Price Adjustment (NEPA) guarantees new generators, under certain circumstances, a stable capacity price for their first three years in the market. The NEPA’s guarantee eliminates, for three years, the risk that the new generator’s entry into the auction might so decrease the clearing price as to prevent that generator from recovering its costs.

B

Around 2009, Maryland electricity regulators became concerned that the PJM capacity auction was failing to encourage development of sufficient new in-state generation. Because Maryland sits in a particularly congested part of the PJM grid, importing electricity from other parts of the grid into the State is often difficult. To address this perceived supply shortfall, Maryland regulators proposed that FERC extend the duration of the NEPA from three years to ten. FERC rejected the proposal. PJM, 126 FERC ¶ 61,275 (2009). "[G]iving new suppliers longer payments and assurances unavailable to existing suppliers," FERC reasoned, would improperly favor new generation over existing generation, throwing the auction's market-based price-setting mechanism out of balance. Ibid. See also PJM, 128 FERC ¶ 61,157 (2009) (order on petition for rehearing) ("Both new entry and retention of
existing efficient capacity are necessary to ensure reliability and both should receive the same price so that the price signals are not skewed in favor of new entry.

Shortly after FERC rejected Maryland's NEPA proposal, the Maryland Public Service Commission promulgated the Generation Order at issue here. Under the order, Maryland solicited proposals from various companies for construction of a new gas-fired power plant at a particular location, and accepted the proposal of petitioner CPV Maryland, LLC (CPV). Maryland then required LSEs to enter into a 20-year pricing contract (the parties refer to this contract as a "contract for differences") with CPV at a rate CPV specified in its accepted proposal. Unlike a traditional bilateral contract for capacity, the contract for differences does not transfer ownership of capacity from CPV to the LSEs. Instead, CPV sells its capacity on the PJM market, but Maryland's program guarantees CPV the contract price rather than the auction clearing price.

New Jersey implemented a similar program around the same time. The duration of the price guarantee for the New Jersey program is 15 years rather than Maryland's 20.

If CPV's capacity clears the PJM capacity auction and the clearing price falls below the price guaranteed in the contract for differences, Maryland LSEs pay CPV the difference between the contract price and the clearing price. The LSEs then pass the costs of these required payments along to Maryland consumers in the form of higher retail prices. If CPV's capacity clears the auction and the clearing price exceeds the price guaranteed in the contract for differences, CPV pays the LSEs the difference between the contract price and the clearing price, and the LSEs then pass the savings along to consumers in the form of lower retail prices. Because CPV sells its capacity exclusively in the PJM auction market, CPV receives no payment from Maryland LSEs or PJM if its capacity fails to clear the auction. But CPV is guaranteed a certain rate if its capacity does clear, so the contract's terms encourage CPV to bid its capacity into the auction at the lowest possible price.

Two simplified examples illustrate how Maryland's program interacts with the PJM capacity auction. First, consider a hypothetical situation where the clearing price falls below the price guaranteed in the contract for differences. Assume that CPV's plant produces 10,000 units of electricity a year, and that the 20-year price guaranteed under the contract is $30/unit. Assume further that, in a given year during the duration of the price guarantee, the clearing price is $20/unit, and CPV's capacity clears the auction. CPV receives payments from Maryland LSEs of $10/unit, or $100,000, and payments from PJM of $20/unit, or $200,000. The rate CPV receives from the capacity auction is therefore $30/unit—the contract price—not $20/unit—the clearing price. Under PJM auction rules, Maryland LSEs then must purchase from PJM, at the clearing price of $20/unit, enough capacity to satisfy their assigned shares of anticipated demand.

Assume that PJM requires Maryland LSEs to purchase 40,000 units of capacity. Total capacity-auction expenses for Maryland LSEs would therefore include both the payment to CPV ($100,000) and the full cost of purchasing capacity from PJM ($800,000), or $900,000. Absent Maryland's program, the LSEs' capacity-auction expenses would have included only the total cost of capacity purchases from PJM, or $800,000.

Now assume instead that the clearing price in a given year is $40/unit, which exceeds the $30/unit contract price, and that CPV's capacity clears the auction. CPV receives payments from PJM of $40/unit, or $400,000. CPV then must pay Maryland LSEs the difference between the contract price and the clearing price—in this case, $10/unit, or $100,000. The rate CPV receives from the capacity auction is therefore the contract price—$30/unit—the same price CPV received in the above example. Maryland LSEs then must purchase from PJM, at the clearing
price of $40/unit, enough capacity to satisfy their share of anticipated demand. Assume that PJM again requires Maryland LSEs to purchase 40,000 units of capacity. Total capacity-auction expenses for Maryland LSEs would therefore include the full cost of capacity purchases from PJM ($1,600,000), minus the payment from CPV ($100,000), or $1,500,000. Absent Maryland's program, the LSEs would have had to pay $1,600,000 to PJM without receiving any offsetting payments from CPV.

Prior to enactment of the Maryland program, PJM had exempted new state-supported generation from the MOPR, allowing such generation to bid capacity into the auction at $0 without first clearing at the MOPR price. Responding to a complaint filed by incumbent generators in the Maryland region who objected to Maryland's program (and the similar New Jersey program), FERC eliminated this exemption. PJM, 135 FERC ¶ 61,022 (2011). See also 137 FERC ¶ 61,145 (2011) (order on petition for rehearing) ("Our intent is not to pass judgment on state and local policies and objectives with regard to the development of new capacity resources, or unreasonably interfere with those objectives. We are forced to act, however, when subsidized entry supported by one state's or locality's policies has the effect of disrupting the competitive price signals that PJM's [capacity auction] is designed to produce, and that PJM as a whole, including other states, rely on to attract sufficient capacity."); New Jersey Bd. of Pub. Util. v. FERC, 744 F.3d 747-80 (C.A.3 2014) (upholding FERC's elimination of the state-supported generation exemption). In the first year CPV bid capacity from its new plant into the PJM capacity auction, that capacity cleared the auction at the MOPR rate, so CPV was thereafter eligible to function as a price taker.

In addition to seeking the elimination of the state-supported generation exemption, incumbent generators—respondents here—brought suit in the District of Maryland against members of the Maryland Public Service Commission in their official capacities. The incumbent generators sought a declaratory judgment that Maryland's program violates the Supremacy Clause by setting a wholesale rate for electricity and by interfering with FERC's capacity-auction policies. CPV intervened as a defendant. After a six-day bench trial, the District Court issued a declaratory judgment holding that Maryland's program improperly sets the rate CPV receives for interstate wholesale capacity sales to PJM. PPL Energyplus, LLC v. Nazarian, 974 F.Supp.2d 790, 840 (Md.2013). "While Maryland may retain traditional state authority to regulate the development, location, and type of power plants within its borders," the District Court explained, "the scope of Maryland's power is necessarily limited by FERC's exclusive authority to set wholesale energy and capacity prices." Id., at 829.

Because neither CPV nor Maryland has challenged whether plaintiffs may seek declaratory relief under the Supremacy Clause, the Court assumes without deciding that they may. See Brief for Public Utility Law Project of New York, Inc., as Amicus Curiae 21 (arguing that the incumbent generators should have been required to exhaust administrative remedies before filing suit).

Respondents also raised arguments under the Dormant Commerce Clause and 42 U.S.C. § 1983. The District Court rejected those arguments, PPL Energyplus, LLC v. Nazarian, 974 F.Supp.2d 790, 841-855 (Md.2013), the Fourth Circuit did not address them, and they are irrelevant at this stage.

The Fourth Circuit affirmed. Relying on this Court's decision in Mississippi Power & Light Co. v. Mississippi ex rel. Moore, 487 U.S. 354, 370, 108 S.Ct. 2428, 101 L.Ed.2d 322 (1988), the Fourth Circuit observed that state laws are preempted when they "deny[ ] full effect to the rates set by FERC, even though [they do] not seek to tamper with the actual terms of an interstate transaction." PPL EnergyPlus, LLC v. Nazarian, 753 F.3d 467, 476 (2014). Maryland's program, the Fourth Circuit reasoned, "functionally sets the rate that CPV receives for its sales
in the PJM auction," "a FERC-approved market mechanism." Id., at 476–477. "[B]y adopting terms and prices set by Maryland, not those sanctioned by FERC," the Fourth Circuit concluded, Maryland's program "strikes at the heart of the agency's statutory power." Id., at 478. The Fourth Circuit cautioned that it "need not express an opinion on other state efforts to encourage new generation, such as direct subsidies or tax rebates, that may or may not differ in important ways from the Maryland initiative." Ibid.

8 For the same reason, the Third Circuit found New Jersey's similar program preempted. PPL EnergyPlus, LLC v. Solomon, 766 F.3d 241, 246 (2014).

The Fourth Circuit then held that Maryland's program impermissibly conflicts with FERC policies. Maryland's program, the Fourth Circuit determined, "has the potential to seriously distort the PJM auction's price signals," undermining the incentive structure FERC has approved for construction of new generation. Ibid. Moreover, the Fourth Circuit explained, Maryland's program "conflicts with NEPA" by providing a 20-year price guarantee to a new entrant—even though FERC refused Maryland's request to extend the duration of the NEPA past three years. Id., at 479.

We granted certiorari, 577 U.S. ——, 136 S.Ct. 356, 193 L.Ed.2d 288 (2015), and now affirm.

II


We agree with the Fourth Circuit's judgment that Maryland's program sets an interstate wholesale rate, contravening the FPA's division of authority between state and federal regulators. As earlier recounted, see supra, at 1292, the FPA allocates to FERC exclusive jurisdiction over "rates and charges ... received ... for or in connection with" interstate wholesale sales. § 824d(a). Exercising this authority, FERC has approved the PJM capacity auction as the sole rate setting mechanism for sales of capacity to PJM, and has deemed the clearing price per se just and reasonable. Doubting FERC's judgment, Maryland—through the contract for differences—requires CPV to participate in the PJM capacity auction, but guarantees CPV a rate distinct from the clearing price for its interstate sales of capacity to PJM. By adjusting an interstate wholesale rate, Maryland's program invades FERC's regulatory turf. See EPSA, 577 U.S., at ———, 136 S.Ct., at 780 ("The FPA leaves no room either for direct state regulation of the prices of interstate wholesales or for regulation that would indirectly achieve the same result." (internal quotation marks omitted)).
That Maryland was attempting to encourage construction of new in-state generation does not save its program. States, of course, may regulate within the domain Congress assigned to them even when their laws incidentally affect areas within FERC’s domain. See Oneok, Inc. v. Learjet, Inc., 575 U.S. ———, 135 S.Ct. 1591, 1599, 191 L.Ed.2d 511 (2015)(whether the Natural Gas Act (NGA) preempts a particular state law turns on "the target at which the state law aims "). But States may not seek to achieve ends, however legitimate, through regulatory means that intrude on FERC’s authority over interstate wholesale rates, as Maryland has done here. See ibid. (distinguishing between "measures aimed directly at interstate purchasers and wholesalers for resale, and those aimed at subjects left to the States to regulate" (internal quotation marks omitted)).

According to Maryland and CPV, the payments guaranteed under Maryland’s program are consideration for CPV’s compliance with various state-imposed conditions, i.e., the requirements that CPV build a certain type of generator, at a particular location, that would produce a certain amount of electricity over a particular period of time. The payments, Maryland and CPV continue, are therefore separate from the rate CPV receives for its wholesale sales of capacity to PJM. But because the payments are conditioned on CPV’s capacity clearing the auction—and, accordingly, on CPV selling that capacity to PJM—the payments are certainly "received ... in connection with" interstate wholesale sales to PJM. 16 U.S.C. § 824d(a).

Although Oneok, Inc. v. Learjet, Inc., 575 U.S. ———, 135 S.Ct. 1591, 191 L.Ed.2d 511 (2015), involved the NGA rather than the FPA, the relevant provisions of the two statutes are analogous. This Court has routinely relied on NGA cases in determining the scope of the FPA, and vice versa. See, e.g., id., at ———, 135 S.Ct., at 1601–1602 (discussing FPA cases while determining the preemptive scope of the NGA).

Maryland’s program, Maryland and CPV assert, is consistent with federal law because FERC has accommodated the program by eliminating the MOPR’s state-supported generation exception. Even assuming that this change has prevented Maryland’s program from distorting the auction’s price signals, however—a point the parties dispute—Maryland cannot regulate in a domain Congress assigned to FERC and then require FERC to accommodate Maryland’s intrusion. See Northwest Central Pipeline Corp. v. State Corporation Comm’n of Kan., 489 U.S. 493, 518, 109 S.Ct. 1262, 103 L.Ed.2d 509 (1989) ("The NGA does not require FERC to regulate around a state rule the only purpose of which is to influence purchasing decisions of interstate pipelines, however that rule is labeled.").

The problem we have identified with Maryland’s program mirrors the problems we identified in Mississippi Power & Light and Nantahala Power & Light Co. v. Thornburg, 476 U.S. 953, 106 S.Ct. 2349, 90 L.Ed.2d 943 (1986). In each of those cases, a State determined that FERC had failed to ensure the reasonableness of a wholesale rate, and the State therefore prevented a utility from recovering—through retail rates—the full cost of wholesale purchases. See Mississippi Power & Light, 487 U.S., at 360–364, 108 S.Ct. 2428 ; Nantahala, 476 U.S., at 956–962, 106 S.Ct. 2349. This Court invalidated the States’ attempts to second-guess the reasonableness of interstate wholesale rates. " ‘Once FERC sets such a rate,’ " we observed in Mississippi Power & Light, " ‘a State may not conclude in setting retail rates that the FERC-approved wholesale rates are unreasonable. A State must rather give effect to Congress’ desire to give FERC plenary authority over interstate wholesale rates, and to ensure that the States do not interfere with this authority.’ " 487 U.S., at 373, 108 S.Ct. 2428 (quoting Nantahala, 476 U.S., at 956, 106 S.Ct. 2349 ). True, Maryland’s program does not prevent a utility from recovering through retail sales a cost FERC mandated it incur—Maryland instead guarantees CPV a certain rate for capacity sales to PJM regardless of the clearing price. But Mississippi Power & Light and Nantahala make clear that States interfere with FERC’s authority by disregarding interstate wholesale rates FERC has deemed just and reasonable, even when States exercise their traditional authority over retail rates or, as here, in-state generation.
The contract for differences, Maryland and CPV respond, is indistinguishable from traditional bilateral contracts for capacity, which FERC has long accommodated in the auction. See supra, at 1293 – 1294, and n. 3. But the contract at issue here differs from traditional bilateral contracts in this significant respect: The contract for differences does not transfer ownership of capacity from one party to another outside the auction. Instead, the contract for differences operates within the auction; it mandates that LSEs and CPV exchange money based on the cost of CPV's capacity sales to PJM. Notably, because the contract for differences does not contemplate the sale of capacity outside the auction, Maryland and CPV took the position, until the Fourth Circuit issued its decision, that the rate in the contract for differences is not subject to FERC's reasonableness review. See § 824(b)(1) (FERC has jurisdiction over contracts for "the sale of electric energy at wholesale in interstate commerce." (emphasis added)).

12Our opinion does not call into question whether generators and LSEs may enter into long-term financial hedging contracts based on the auction clearing price. Such contracts, also frequently termed contracts for differences, do not involve state action to the same degree as Maryland's program, which compels private actors (LSEs) to enter into contracts for differences—like it or not—with a generator that must sell its capacity to PJM through the auction.

Our holding is limited: We reject Maryland's program only because it disregards an interstate wholesale rate required by FERC. We therefore need not and do not address the permissibility of various other measures States might employ to encourage development of new or clean generation, including tax incentives, land grants, direct subsidies, construction of state-owned generation facilities, or re-regulation of the energy sector. Nothing in this opinion should be read to foreclose Maryland and other States from encouraging production of new or clean generation through measures "untethered to a generator's wholesale market participation." Brief for Respondents 40. So long as a State does not condition payment of funds on capacity clearing the auction, the State's program would not suffer from the fatal defect that renders Maryland's program unacceptable.13

13Because the reasons we have set out suffice to invalidate Maryland's program, we do not resolve whether, as the incumbent generators also assert, Maryland's program is preempted because it counteracts FERC's refusal to extend the NEPA's duration, or because it interferes with the capacity auction's price signals.

For the reasons stated, the judgment of the Court of Appeals for the Fourth Circuit is

Affirmed.

Justice SOTOMAYOR, concurring.

I write separately to clarify my understanding of the pre-emption principles that should guide this Court's analysis of the Federal Power Act and that underpin its conclusion in these cases.

The process through which consumers obtain energy stretches across state and federal regulatory domains. The Federal Power Act authorizes the States to regulate energy production. 16 U.S.C. § 824(b). It then instructs the Federal Government to step in and regulate wholesale purchases and energy transportation. § 824(a). Finally, it allows the States to assume control over the ultimate sale of energy to consumers. § 824(b). In short, the Federal Power Act, like all collaborative federalism statutes, envisions a federal-state relationship marked by interdependence.
Pre-emption inquiries related to such collaborative programs are particularly delicate. This Court has said that where "coordinate state and federal efforts exist within a complementary administrative framework, and in the pursuit of common purposes, the case for federal pre-emption becomes a less persuasive one." New York State Dept. of Social Servs. v. Dublino, 413 U.S. 405, 421, 93 S.Ct. 2507, 37 L.Ed.2d 688 (1973). That is not to say that pre-emption has no role in such programs, but courts must be careful not to confuse the "congressionally designed interplay between state and federal regulation," Northwest Central Pipeline Corp. v. State Corporation, Comm'n of Kan., 489 U.S. 493, 518, 109 S.Ct. 1262, 103 L.Ed.2d 509 (1989), for impermissible tension that requires pre-emption under the Supremacy Clause.

In this context, therefore, our general exhortation not to rely on a talismanic pre-emption vocabulary applies with special force. See Hines v. Davidowitz, 312 U.S. 52, 67, 61 S.Ct. 399, 85 L.Ed. 581 (1941) ("This Court ... has made use of the following expressions: conflicting; contrary to; occupying the field; repugnance; difference; irreconcilability; inconsistency; violation; curtailment; and interference. But none of these expressions provides an infallible constitutional test or an exclusive constitutional yardstick" (footnote omitted)).

I understand today's opinion to reflect these principles. Using the purpose of the Federal Power Act as the "ultimate touchstone" of its pre-emption inquiry, Altria Group, Inc. v. Good, 555 U.S. 70, 76, 129 S.Ct. 538, 172 L.Ed.2d 398 (2008), rather than resting on generic pre-emption frameworks unrelated to the Federal Power Act, the Court holds that Maryland has impermissibly impeded the performance of one of FERC's core regulatory duties. Ensuring "just and reasonable" wholesale rates is a central purpose of the Act. See 16 § 824d(a). Pursuant to its mandate to set such rates, FERC has approved the PJM Interconnection capacity auction as the proper mechanism to determine the "just and reasonable" rate for the sale of petitioner CPV Maryland, LLC's energy at wholesale. Ante, at 1297. Maryland, however, has acted to guarantee CPV a rate different from FERC's "just and reasonable" rate and has thus contravened the goals of the Federal Power Act. Ibid. Such actions must be preempted. Mississippi Power & Light Co. v. Mississippi ex rel. Moore, 487 U.S. 354, 374, 108 S.Ct. 2428, 101 L.Ed.2d 322 (1988) ("States may not regulate in areas where FERC has properly exercised its jurisdiction to determine just and reasonable wholesale rates"). The Court, however, also rightly recognizes the importance of protecting the States' ability to contribute, within their regulatory domain, to the Federal Power Act's goal of ensuring a sustainable supply of efficient and price-competitive energy. Ante, at 1299.

Endorsing those conclusions, I join the Court's opinion in full.

Justice THOMAS, concurring in part and concurring in the judgment.

The Court concludes that Maryland's regulatory program invades the Federal Energy Regulatory Commission's (FERC) exclusive jurisdiction over interstate wholesale sales of electric energy. Ante, at 1297 - 1298. I agree that the statutory text and framework compel that conclusion, and that Maryland's program therefore cannot stand. Because the statute provides a sufficient basis for resolving these cases, I would not also rest today's holding on principles of implied pre-emption. See, e.g., ante, at 1297 - 1298. For that reason, I join the Court's opinion only to the extent that it rests on the text and structure of the Federal Power Act (FPA), 41 Stat. 1063, as amended, 16 U.S.C. § 791a et seq.
The FPA divides federal and state jurisdiction over the regulation of electricity sales. As relevant here, the FPA grants FERC the authority to regulate "the sale of electric energy at wholesale in interstate commerce." § 824(b)(1). That federal authority over interstate wholesale sales is exclusive. See, e.g., Nantahala Power & Light Co. v. Thornburg, 476 U.S. 953, 966, 106 S.Ct. 2349, 90 L.Ed.2d 943 (1986) (recognizing that Congress "vested" in FERC "exclusive jurisdiction" and "plenary authority over interstate wholesale rates"); Mississippi Power & Light Co. v. Mississippi ex rel. Moore, 487 U.S. 354, 377, 108 S.Ct. 2428, 101 L.Ed.2d 322 (1988) (Scalia, J., concurring in judgment) ("It is common ground that if FERC has jurisdiction over a subject, the States cannot have jurisdiction over the same subject").

To resolve these cases, it is enough to conclude that Maryland’s program invades FERC’s exclusive jurisdiction. Maryland has partially displaced the FERC-endorsed market mechanism for determining wholesale capacity rates. Under Maryland’s program, CPV Maryland, LLC, is entitled to receive, for its wholesale sales into the capacity auction, something other than what FERC has decided that generators should receive. That is a regulation of wholesale sales: By "fiddling with the effective ... price" that CPV receives for its wholesale sales, Maryland has "regulate[d]" wholesale sales "no less than does direct rate setting." FERC v. Electric Power Supply Assn., 577 U.S. ——, ———, 136 S.Ct. 760, 787, 193 L.Ed.2d 661 (2016) (Scalia, J., dissenting) (emphasis deleted) (addressing analogous situation involving retail sales). Maryland’s program therefore intrudes on the exclusive federal jurisdiction over wholesale electricity rates.

Although the Court applies the FPA’s framework in reaching that conclusion, see ante, at 1297 – 1298, it also relies on principles of implied pre-emption, see, e.g., ante, at 1297 – 1298. Because we can resolve these cases based on the statute alone, I would affirm based solely on the FPA. Accordingly, I concur in the judgment and I join the Court’s opinion to the extent that it holds that Maryland’s program invades FERC’s exclusive jurisdiction.
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