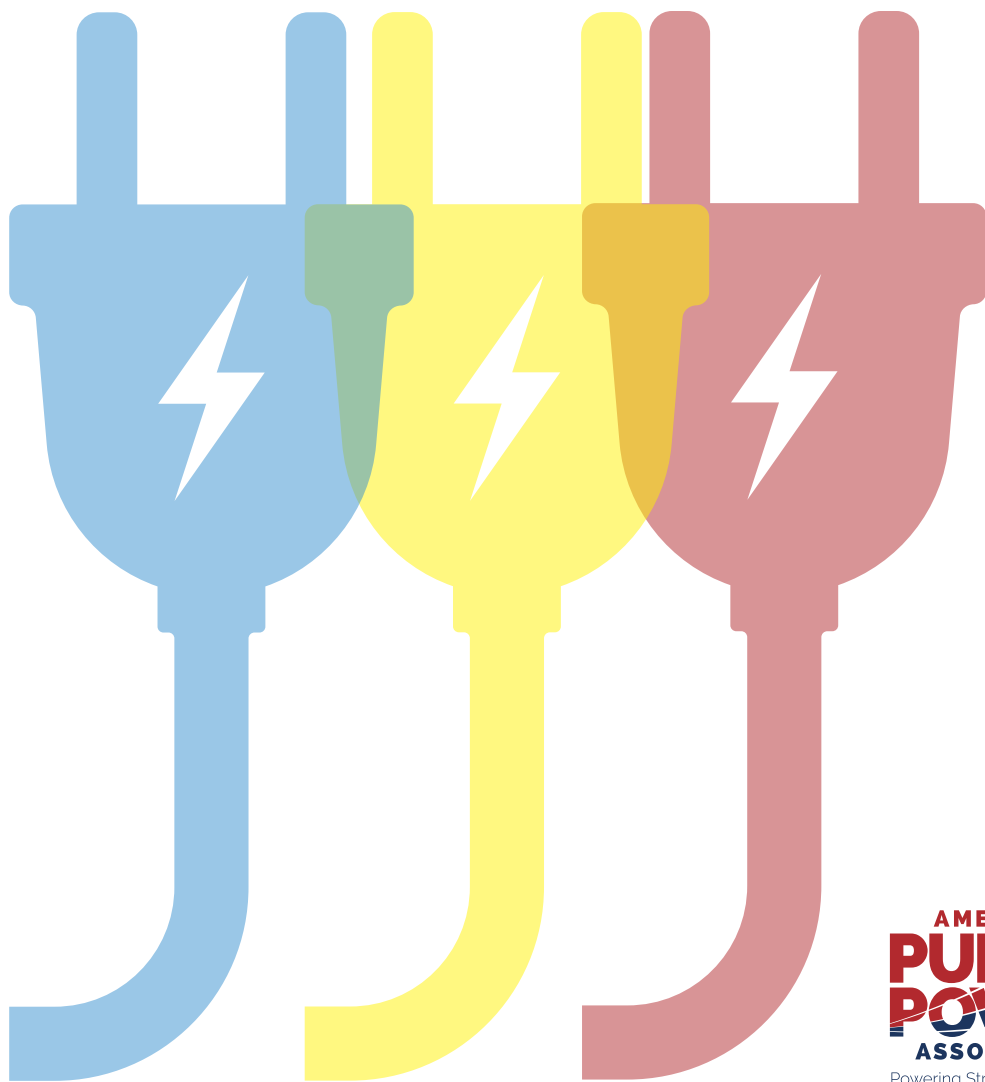


Retail Electric Rates in Deregulated and Regulated States

2018 UPDATE



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Retail Electric Rates in Deregulated and Regulated States: 2018 Update

The U.S. Department of Energy, Energy Information Administration (EIA) data show that between 1997 and 2018, increases in retail electric prices in states with deregulated electric markets and regulated states were about the same, though with a slightly higher percentage increase in regulated states.

The deregulated category includes states with retail choice programs. These states allow end-use customers to choose their electricity provider (retail choice) and no longer have rate caps or other forms of regulatory protections that limit customers' exposure to wholesale market prices. Deregulated states are California, Connecticut, the District of Columbia, Delaware, Illinois, Massachusetts, Maryland, Maine, Michigan, Montana, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Texas. The regulated category includes those states with traditional rate regulation.

Weighted average retail rates for each category were calculated by dividing total annual revenue from sales to consumers in each category by total annual sales to consumers.

In most deregulated states, investor-owned utilities (IOUs) sold off their electric generating facilities as part of the implementation of the retail choice regime. While the majority of industrial and large commercial customers purchase from an alternative supplier, residential customer participation in retail choice has fluctuated in recent years. In almost all retail choice states, less than half of all residential customers participate in retail choice, and participation is below 20 percent in seven states plus the District of Columbia. Therefore, residential customers are still served predominantly by the incumbent utility. The distribution utility purchases power from the wholesale market to serve the remaining customers not purchasing from an alternative supplier. (This is generally called default or provider-of-last-resort service). Texas is unique in that all customers in retail choice regions of the state must purchase from an alternative supplier. Except for part of Montana, all of the retail choice states are located in regions where wholesale electricity prices are set through centralized wholesale markets run by regional transmission organizations (RTOs) and Independent System Operators (ISOs).

States with higher levels of residential participation in retail choice, such as Ohio, tend to rely more on aggregation, where a county or municipality purchases power on behalf of the citizens, and citizens can either opt-in or opt-out of that aggregation. In Ohio about two-thirds of the residential participation is through such aggregation. Aggregators can arrange longer-term purchases on behalf of their customers for specific resources, such as renewable power, rather than primarily relying on RTO-operated wholesale markets.

The following chart and graph cover over twenty years of experience with retail choice programs. 1997 was chosen as the starting year as it represents the last year with essentially no

retail choice activity. The decline in rates in deregulated states in 1998 and 1999 most likely reflects the effect of mandated rate decreases in retail choice states, but the decline was short-lived as rates began rising again in 2000.

Rates for both deregulated and regulated states increased steadily for the first half of the previous decade, then increased dramatically in deregulated states between 2005 and 2006 as more rate caps came off and natural gas prices increased. Rates in regulated states also increased, though at a slightly slower pace. Due to the decline in natural gas prices, rates in deregulated states declined from 2008-2012; however, rates in deregulated states began increasing again after 2012. Between 2012 and 2018, total rates in deregulated rates increased by 0.9 cent, compared to 0.7 cent for regulated states.

Average Revenue per Kilowatt-hour: Deregulated vs. Regulated States

Source: Energy Information Administration, Forms EIA-861 and EIA-861M.

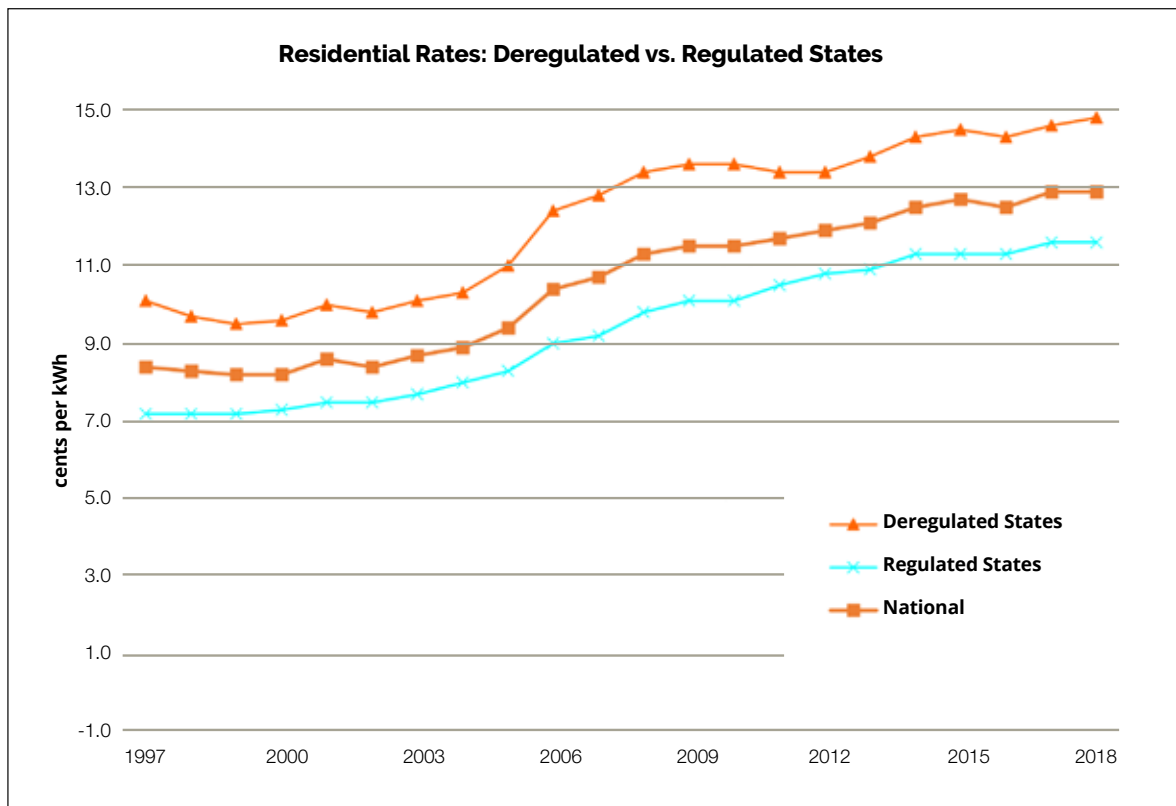
	Deregulated States	Regulated States	National
	(in cents per kilowatt-hour)		
1997	8.1	5.8	6.8
1998	7.8	5.8	6.7
1999	7.7	5.8	6.6
2000	8.0	5.9	6.8
2001	8.6	6.2	7.3
2002	8.5	6.2	7.2
2003	8.8	6.4	7.4
2004	8.9	6.6	7.6
2005	9.6	7.0	8.1
2006	10.7	7.5	8.9
2007	11.0	7.7	9.1
2008	11.7	8.3	9.7
2009	11.5	8.5	9.8
2010	11.5	8.6	9.8
2011	11.3	8.8	9.9
2012	11.0	8.9	9.8
2013	11.3	9.1	10.1
2014	11.8	9.4	10.4
2015	11.8	9.4	10.4
2016	11.5	9.3	10.3
2017	11.7	9.5	10.5
2018	11.9	9.6	10.6
Difference, in cents per kilowatt-hour			
1997-2018	3.8	3.8	3.8

States that implemented retail choice electric plans were generally high cost states at the time, and the hope was that competition by electric suppliers would result in lower rates. In 1997, the states in the deregulated category had weighted average rates that were 2.3 cents per kWh above rates in the regulated states (8.1 vs. 5.8). After 20 years that gap remains exactly the same (11.9 vs. 9.6).

Though the gap has remained the same nominally and narrowed in percentage terms from a 40 to 24 percent differential, the original promise of greatly reduced prices has not materialized. Moreover, most of the gains achieved in deregulated states has been in the commercial and industrial sectors. Residential rates in deregulated states increased by 0.3 cent more than they did in regulated states between 1997

and 2018 (increasing from 10.1 to 14.8 in deregulated states vs. 7.2 to 11.6 in regulated states). Since 2012, residential rates in deregulated rates increased by almost twice the increase experienced in regulated states (1.4 vs. 0.8).

This differential increase has occurred despite growing participation in retail choice for residential customers. "Unbundled" sales, meaning sales to customers choosing an alternative supplier, increased more than six-fold between 2006 and 2017 (13.6 million MWh vs. 92.9 million MWh).¹ As reported earlier, overall, though, a much higher percentage of commercial and industrial customers choose an alternative supplier than residential customers, most of whom remain with their default utility.



charts on page 2 and 4 and the footnote on page 3, change the data source where it says EIA-826 to EIA-861M.

¹ Source: Energy Information Administration, Forms EIA-861 and EIA-861M.

Data for Individual States

Residential Revenue per Kilowatt-hour: Deregulated vs. Regulated States

Source: Energy Information Administration, Forms EIA-861 and EIA-861M.

	Deregulated States	Regulated States	All States Combined
	(in cents per kilowatt-hour)		
1997	10.1	7.2	8.4
1998	9.7	7.2	8.3
1999	9.5	7.2	8.2
2000	9.6	7.3	8.2
2001	10.0	7.5	8.6
2002	9.8	7.5	8.4
2003	10.1	7.7	8.7
2004	10.3	8.0	8.9
2005	11.0	8.3	9.4
2006	12.4	9.0	10.4
2007	12.8	9.2	10.7
2008	13.4	9.8	11.3
2009	13.6	10.1	11.5
2010	13.6	10.1	11.5
2011	13.4	10.5	11.7
2012	13.4	10.8	11.9
2013	13.8	10.9	12.1
2014	14.3	11.3	12.5
2015	14.5	11.3	12.7
2016	14.3	11.3	12.5
2017	14.6	11.6	12.9
2018	14.8	11.6	12.9

Difference, in cents per kilowatt-hour

1997-2018	4.7	4.4	4.5
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Five of the 15 states in the deregulated category are in the footprint of the New England RTO (known as ISO-New England). The table below shows that rates for all five states were already well above the national average in 1997. Since 1997, all states except Maine experienced rate increases above the national average, while rates in Connecticut have increased at double the rate of the national average. Rates in these New England states declined between 2008 and 2012, most likely due to steep drops in natural gas prices, as the New England region relies heavily on natural gas for generation. Since 2012, rates have risen dramatically in several New England states: by approximately three cents in Connecticut, four and a half cents in Massachusetts, and by over five cents in Rhode Island.

State Average Customer Rates, in cents per kWh

	<u>1997</u>	<u>2018</u>	<u>Difference</u>
ISO - New England			
Connecticut	10.5	18.5	8.0
Maine	9.5	13.1	3.6
Massachusetts	10.4	18.3	7.9
New Hampshire	11.6	16.9	5.3
Rhode Island	10.7	18.1	7.4
National Average	6.8	10.6	3.8

Four retail choice states and the District of Columbia are in the PJM RTO, and the state of New York comprises the New York RTO (known as NYISO). Rates in New Jersey, Pennsylvania, and Delaware increased less than they did for the nation as a whole, while rates in the District of Columbia and Maryland rose more than the national average. New York rates kept pace with national increases.

State Average Customer Rates, in cents per kWh

	<u>1997</u>	<u>2018</u>	<u>Difference</u>
Eastern PJM and NYISO			
Delaware	7.0	10.6	3.6
District of Columbia	7.4	12.0	4.6
Maryland	7.0	11.6	4.6
New Jersey	10.5	13.3	2.8
Pennsylvania	8.0	10.1	2.1
New York	11.1	14.9	3.8
National Average	6.8	10.6	3.8

Utilities in two of the three retail choice states in the Midwest operate in both PJM and the Midcontinent ISO (MISO). While Michigan's rates increased by more than the national average, Ohio and Illinois's rates increased by less than the national average. Ohio is located within PJM. Commonwealth Edison, which serves over 60 percent of the load in Illinois, is in PJM, while the rest of the Illinois utilities and almost all of Michigan are in MISO. Rate caps in Illinois expired after 2006, and the state implemented an auction process to procure supply.

Unlike IOUs in most retail choice states, Michigan utilities did not sell their generating assets, and consequently, only depend on wholesale power markets for a small portion of their customers' power needs. Under the terms of a 2008 law, participation in retail choice programs is capped at ten percent of an IOU's retail sales. Almost no residential load in Michigan is served by an alternative supplier.

Ohio utilities initially had been subject to transitional rate regulation and were required to offer customers a rate approved by the Public Utilities Commission of Ohio (PUCO) under a cost-plus-based electricity plan. Beginning in 2012 a large share of IOU load was bid at competitive auctions, and most customers had switched to alternative suppliers. Because a large portion of Ohio ratepayers are now directly exposed to wholesale market prices, Ohio is considered a deregulated state.

State Average Customer Rates, in cents per kWh

	<u>1997</u>	<u>2018</u>	<u>Difference</u>
Midwest			
Illinois	7.7	9.5	1.8
Michigan	7.0	11.5	4.5
Ohio	6.3	9.8	3.5
National Average	6.8	10.6	3.8

Only two western states implemented retail choice: California, which comprises the California ISO, and Montana.

Following the California energy crisis in 2000-2001, retail choice was suspended in the state, and the only customers that could choose their providers were those who were on retail choice plans at the time of the suspension. An October 2009 law allowed retail choice for commercial and industrial customers up to the level achieved prior to the suspension of retail choice, and in April 2010, the state Public Utilities Commission set the level at 11 percent of total retail sales. This state's rates have increased significantly since 1997.

Retail competition has been limited in California but has recently expanded in a different form with the growth of Community Choice Aggregators (CCAs). These entities are non-profit entities who procure power on behalf of aggregated retail customers within a municipality that is located in the service territory of an IOU, although individual customers may opt out of CCA participation. CCAs are estimated to provide almost half of the retail energy within the Pacific Gas & Electric service territory. This is a different form of retail choice as CCAs tend to procure power through long-term contracts, typically for renewable power, rather than purchasing directly from RTO-operated markets. The impact of CCAs on average retail rates may not be seen for a few years.

Montana is the only retail choice state not entirely in an RTO, but the state's IOU sold off all its generation, so the utility must purchase power in wholesale power markets, including RTO-operated markets. Montana enacted a law in 2007 to end retail choice for all but large customers with more than 5 megawatts of load and those customers on retail choice plans as of October 2007.

State Average Customer Rates, in cents per kWh

	<u>1997</u>	<u>2018</u>	<u>Difference</u>
Western States			
California	9.5	16.7	7.2
Montana	5.2	9.0	3.8
National Average	6.8	10.6	3.8

Texas's experience with deregulation is somewhat unique. Retail choice began in 2002 in the ERCOT portion of the state. Major IOUs were required to offer retail choice and to break up their business services. All end-use customers in the state are served by Retail Electric Providers (REPs), and thus, IOUs in the ERCOT region no longer report sales or revenue to the Energy Information Administration (EIA). Public power utilities and rural electric cooperatives were given the option to offer retail choice, but only one, Lubbock Power & Light, is planning to offer retail choice to its customers.

Rates in Texas increased dramatically in the wake of retail choice implementation. In 2002 the average retail rate was 6.6 cents, and by 2008 rates had increased to 11.0. Since 2008, rates have consistently declined each year, and had fallen to 8.3 cents in 2016, before increasing again to 8.6 cents per kWh in 2017, and 8.7 cents in 2018.

State Average Customer Rates, in cents per kWh

	<u>1997</u>	<u>2018</u>	<u>Difference</u>
Texas	6.2	8.7	2.5
National Average	6.8	10.6	3.8