

Appendix C.

Making Rate and Cost Comparisons

Average revenue per kilowatt-hour (kWh) is the most accessible measure of an electric utility's rate level.¹ This measure is calculated by dividing a utility's annual electric revenue from sales to consumers by the total number of kilowatt-hours sold to consumers. The calculation can be made for total sales to all customers and for each customer class: residential, commercial and industrial.

The U.S. Department of Energy's Energy Information Administration (EIA) collects annual data on revenues and sales by customer class from each electric utility and publishes revenue per kilowatt-hour, by customer class, for each utility.² These data can be used to provide the same revenue-per-kilowatt-hour comparisons within a state. These comparisons are available on the American Public Power Association's website, PublicPower.org.³

Rate comparisons by customer class are useful because a sellout campaign may focus on how a specific customer class would fare if the public power utility were sold. Residential customers may be the focus because, in many public power cities, the sale of the utility must be approved in a voter referendum. In other cases, the focus may be on attracting and retaining industrial customers.

The first table below compares average rate levels for two Minnesota utilities. When all rate classes are combined, the public power utility's rates are 28 percent below the cooperative utility's rates. However, this difference in rates is not maintained across all customer classes. The public power utility's average residential rate is about 27 percent below the cooperative utility's rate, and its average commercial rate is 13 percent below the cooperative utility's rate. However, the public power utility's industrial rate is about 5 percent higher than the cooperative's.

TABLE C.1 2016 Average Revenue per Kilowatt-hour by Customer Class (in cents per kWh)

CUSTOMER CLASS	SAMPLE PUBLIC POWER UTILITY	SAMPLE COOPERATIVE UTILITY
Residential	10.29	14.06
Commercial	9.70	11.12
Industrial	7.68	7.32
Total – All Classes	8.62	11.99

SOURCE: Form EIA-861, Energy Information Administration.

¹This report was created in 2012 by the American Public Power Association, and updated in 2018.

²The EIA website is www.eia.doe.gov; click on "Electricity" under the "Sources & Uses" tab, then click on "Sales" under the "Data" tab (or use this direct link to the "Sales" page: <http://www.eia.gov/electricity/data.php#sales>.) From here scroll down to "Average Retail Price of Electricity to Ultimate Customers."

³APPA's website is www.PublicPower.org. APPA members can access a report of average utility revenue per kWh on the site by clicking on "Public Power," and then "Stats & Facts." Click the link for more reports on industry statistics; and scroll down to the "Average Revenue per kWh" link. You must be logged in to access the report, which is an Excel workbook with separate worksheets for each state. The direct link to the "Industry Statistics & Reports" page is: <https://www.PublicPower.org/public-power/stats-and-facts/industry-statistics-and-reports>.

Trend Analysis

Trend analysis—looking at rate levels over time—can show the evolving competitive position of a utility. The second table shows a five-year comparison of residential revenue per kilowatt-hour for two Kansas utilities. The public power utility’s average rate was higher at the beginning of the

five-year period, but by the end of the period, its rate was significantly below the investor-owned utility’s average rate. From 2012 to 2016, the investor-owned utility’s average rate rose by 22 percent, while the public power utility’s average rate increased by 3 percent.

TABLE C.2 Residential Revenue per Kilowatt-hour Comparison: Five Year Trend (in cents per kWh)

YEAR	SAMPLE PUBLIC POWER UTILITY	SAMPLE INVESTOR-OWNED UTILITY	DIFFERENCE: PUBLIC POWER UTILITY IS HIGHER (LOWER) BY:
2012	11.29	10.70	0.59
2013	11.20	11.18	0.02
2014	11.65	12.08	(0.43)
2015	11.66	12.11	(0.45)
2016	11.64	13.08	(1.44)
% Change:	3.1%	22.2%	

SOURCE: Form EIA-861, Energy Information Administration.

In making rate comparisons, it is also useful to investigate whether rate trends are likely to continue. In this case, such an analysis would focus on reasons for the private utility’s relatively large rate increase in 2009 and how the public power utility achieved a steady decline in the average rate level since 2008. The public power utility should also see if the rate trends are similar for other customer classes.

Comparing Actual Rate Schedules

Annual revenue per kilowatt-hour measurements provide a meaningful comparison of average rate levels over a twelve-month period and are a good indication of relative rate levels. However, they do not represent what is actually charged to any individual customer. Industrial rates in particular may vary substantially between individual customers. By analyzing published rate schedules, a utility can develop a better idea of what individual customers would pay.

Many utilities provide rate information on their websites. Some may post the actual rate tariffs, while others post summaries of their rate schedules. Another source of rate tariff information is the state public utility commissions (PUCs). These commissions regulate investor-owned utility rates and, in some states, cooperative utility rates.

State PUCs require the utilities they regulate to file all applicable retail rate schedules with the commission and this information is available to the general public.

Another source of rate information is the Federal Energy Regulatory Commission (FERC). FERC collects information on investor-owned utility rate schedules on FERC Form 1, which all major IOUs are required to file annually. Page 304 of FERC Form 1, “Sales of Electricity by Rate Schedules,” shows megawatt-hours sold, revenue, and average number of customers. Of particular interest are the types of rates offered to industrial customers, as these customers typically have the most clout in negotiating rates.

Making Cost Comparisons

The American Public Power Association publishes an annual report on *Financial and Operating Ratios* of public power utilities, which is a good place to start in making cost comparisons.⁴ The report presents data for 22 financial and operating ratios and is based on data from 200 public power utilities. It provides summaries by region and by customer size and includes descriptive information on the data sources and how to calculate the ratios. Samples of these ratios, broken out by region, are shown on the tables on the following pages.

⁴The report “Financial Operating Ratios” is available via the APPA Product Store, in the “Bonds and Financing” category. Go to PublicPower.org under “Shop” for more information.

The ratio of total operations and maintenance expense per kilowatt-hour sold is a good place to start because it summarizes the overall level of operations and maintenance costs. If your utility's ratio is out of line with public power averages, the utility should look at the various operations and maintenance cost categories to determine reasons for the difference.

TABLE C.3 2016 Total Operations and Maintenance Expense per kWh Sold (in cents per kWh)

REGION ⁵	NUMBER OF UTILITIES	FIRST QUARTILE	MEDIAN	THIRD QUARTILE
Northeast	12	9.6	11.1	12.1
Southeast	56	7.5	8.7	9.0
North Central/Plains	51	6.6	8.2	9.7
Southwest	25	6.0	7.1	8.9
West	47	5.5	7.2	8.5

By definition, 25 percent of the observations fall below the first quartile value, half of the observations fall below the median and three quarters of the observations fall below the third quartile value. Thus, for example, a public power utility in the Southwest with total O&M expense per kilowatt-hour sold of 9.0 cents compares poorly with other public power utilities in the Southwest, as this is higher than the third quartile value of 8.9 cents per kilowatt-hour.

Power supply makes up the largest portion of a utility's operations and maintenance costs, making purchased power cost per kilowatt-hour another key ratio, particularly for distribution-only utilities. (Those utilities that generate would also want to look at the ratio of total power supply expense per kilowatt-hour.)

TABLE C.4 2016 Purchased Power Cost per kWh (in cents per kWh)

REGION ⁵	NUMBER OF UTILITIES	FIRST QUARTILE	MEDIAN	THIRD QUARTILE
Northeast	12	5.1	6.8	8.6
Southeast	55	6.3	7.0	7.3
North Central/Plains	51	4.7	6.0	7.5
Southwest	25	4.4	5.0	6.5
West	47	3.7	4.3	5.7

⁵ Regions are combinations of NERC regions. Northeast = NPCC; Southeast = SERC and FRCC; North Central/Plains = MRO and RFC; Southwest = SPP and TRE (ERCOT); and West = WECC and Alaska.

Non-power supply costs, including transmission, distribution, customer services and administrative and general costs, make up the remainder of O&M costs. These costs are measured on a per-customer basis.

A public power utility can calculate these same ratios for investor-owned utilities in the region using data filed from FERC Form 1. Cooperative utilities that have loans from the U.S. Rural Utilities Service (RUS) file similar cost information with the RUS. APPA can help in making these comparisons.

TABLE C.5 2016 Distribution O&M Expense Per Retail Customer

REGION	NUMBER OF UTILITIES	FIRST QUARTILE	MEDIAN	THIRD QUARTILE
Northeast	12	\$125	\$163	\$1252
Southeast	49	122	165	191
North Central/Plains	45	110	151	197
Southwest	23	110	175	233
West	42	174	206	297

TABLE C.6 2016 Customer Accounting, Customer Service & Sales Expense Per Retail Customer

REGION	NUMBER OF UTILITIES	FIRST QUARTILE	MEDIAN	THIRD QUARTILE
Northeast	12	\$59	\$110	\$165
Southeast	49	43	54	67
North Central/Plains	45	41	56	80
Southwest	23	40	52	74
West	42	61	94	146

TABLE C.7 2016 Administrative and General Expense Per Retail Customer

REGION	NUMBER OF UTILITIES	FIRST QUARTILE	MEDIAN	THIRD QUARTILE
Northeast	12	\$173	\$213	\$317
Southeast	49	125	150	197
North Central/Plains	45	140	207	355
Southwest	23	112	170	296
West	42	123	185	269