UNIT COST AND CONSUMPTION OF ENERGY

On chart 0 is compared the cost and consumption ratios for rural electric service in Wisconsin and the eastern one half of the United States from 1930 to 1938, inclusive. The western half of the United States, where electricity is used to a large extent for irrigation and agricultural pumping, was not considered comparable with Wisconsin and, therefore, was not included in the comparison. Rural electric cooperatives were omitted from the cost and consumption data for Wisconsin, since most of them have been operating for less than two years.

Rural service is defined as all service supplied at rural rates. In cases where commercial or industrial customers located in rural areas are served at a rural rate, sales to such customers are included in rural service. If they are served at regular commercial rates they are excluded.

The average cost per kilowatt-hour to ultimate consumers of rural electric service in Wisconsin has been decreasing steadily since 1932. During the past five years the average cost has been reduced from 7.31¢ in 1933 to 5.38¢ in 1938 for a reduction of 26.4%. The average consumption per customer increased from 67 to 92 kilowatt-hours per month for an increase of 37.4%.

That the unit cost of electrical energy should vary inversely with the amount of energy used per customer is to be expected since the form of rate schedules generally results in lower cost per kilowatt-hour when the usage per customer is increased.
Rate reductions, resulting in a lower unit cost undoubtedly have some effect on the consumption of electricity by the rural user. However, other factors such as farm income, initial cost of appliances, appliance sales programs, and other promotional schemes influence the amount of electrical energy consumed by the farm customer.

It is interesting to note that during the past five years the average monthly bill for rural electric service in Wisconsin has varied only 3.6% ranging from a low of $4.77 in 1935 to $4.94 in 1938. The average monthly bill for the eastern one half of the United States in 1938 was only $3.92, which is 20.6% lower than the Wisconsin average. However, it should be pointed out that the average use per rural customer is higher, and, in general, the number of customers per mile of line is less in Wisconsin than in the more densely populated eastern half of the United States.

A comparison of the cost and consumption ratios for rural electric service by eight private utilities is made on Chart D. These utilities served approximately 91% of all rural customers served by private utilities, or 72.8% of all rural customers in Wisconsin, as of December 31, 1938.

From an analysis of Chart D it can be seen that the average cost per kilowatt-hour and the monthly consumption per customer, for each of the eight utilities compared, follows the same general trend as did the state and national averages. The ratios
for each utility give some indication of the average type of
territory served, and the history of the utilities rural electrifi-
cation program since 1926. The fact that commercial customers
located in rural areas are not treated the same by each of the
eight utilities shown on the chart is an important factor in
explaining the variations between companies.

During the late 1920's and early 30's, many of the privately
owned utilities in Wisconsin adopted a line financing policy which
required guaranteed revenues for three-year periods. Under this
plan, the minimum bill usually included an amount of energy which
was somewhat greater than the average normal consumption and,
therefore, had a tendency to increase consumption.

"Free electricity" and other bargain offers made by various
companies also have an important effect on the trends in revenue
per kilowatt-hour and average consumption shown in Chart D. The
Wisconsin Electric Power Company (formerly The Milwaukee Electric
Railway & Light Company), the Wisconsin Gas & Electric Company,
and the Wisconsin Michigan Power Company all offered "free elec-
tricity" during certain months in 1934 and 1935. Similar offers
were made by the Wisconsin Public Service Corporation and its
subsidiary the Menominee & Marinette Light & Traction Company in
1935 and the Wisconsin Hydro Electric Company in 1936.
Since 1935 the Wisconsin Electric Power Company has operated its "10 for 1" plan to stimulate consumption of electricity. This rate is optional and provides that the customer who elects to participate may in any given month use up to double the amount of electricity used during the same month in the previous year and pay the last year's bill for that month plus ten per cent.
CHART C
COST AND CONSUMPTION RATIOS FOR
RURAL ELECTRIC SERVICE
IN WISCONSIN AND EAST HALF OF UNITED STATES
1930–1938
(RATIO SCALE)

NOTE—COOPERATIVES NOT INCLUDED IN WISCONSIN DATA
U.S. DATA FROM EDISON ELECTRIC INSTITUTE STATISTICAL BULLETINS
CHART D
COST AND CONSUMPTION RATIOS FOR RURAL ELECTRIC SERVICE
PRIVATE ELECTRIC UTILITIES IN WISCONSIN
1928—1938

LEGEND
- AVERAGE COST PER KILOWATT-HOUR (CENTS)
- AVERAGE MONTHLY CONSUMPTION PER CUSTOMER (KILOWATT-HOUR)

Note—The eight utilities included on this chart served approximately 91% of all rural customers served by private utilities in Wisconsin as of Dec. 31, 1938.