

a municipal supply station, when once started, been transferred to a company.

Financial Results of British Municipal Electricity Undertakings for Years 1896-1901, Inclusive.

| Undertakings. No. of | Year. | Capital. \$ | Revenue. \$ | Total Costs. \$ | Gross Profits. \$ | INTEREST. | | SINKING FUND. | | INTEREST, DEPRECIATION AND SINKING FUND. | | Per 1000 Watt Hour. | Cents. | Per 1000 Watt Hour. Cents. | Cost per 1000 Watt Hour. Cents. | Total Cost per 1000 Watt Hour, including Interest, Sink- ing Fund, etc. Cents. | Units of 1000 Watt Hours sold. |
|-------------------------|-------|----------------|----------------|--------------------|----------------------|-------------|--------|---------------|--------|--|--------|------------------------|--------|----------------------------------|---------------------------------------|---|--------------------------------------|
| | | | | | | \$ | Cents. | \$ | Cents. | \$ | Cents. | | | | | | |
| 50 | 1896 | 17,357,480 | 2,028,065 | 990,910 | 1,037,155 | 431,580 | 2.10 | 470,030 | 2.28 | 901,610 | 4.38 | | 9.22 | | 4.84 | 4.38 | 19,691,042 |
| 60 | 1897 | 22,647,725 | 2,814,155 | 1,493,605 | 1,420,550 | 549,600 | 1.72 | 557,285 | 1.74 | 1,106,885 | 3.46 | | 7.80 | | 4.34 | 3.46 | 30,721,564 |
| 66 | 1898 | 33,366,700 | 3,968,770 | 1,940,845 | 2,027,925 | 746,140 | 1.52 | 788,350 | 1.60 | 1,534,495 | 3.12 | | 7.06 | | 3.94 | 3.12 | 47,204,575 |
| 75 | 1899 | 45,902,240 | 5,237,400 | 2,778,015 | 2,459,385 | 1,108,660 | 1.62 | 943,695 | 1.30 | 2,112,355 | 2.92 | | 6.74 | | 3.82 | 2.92 | 69,562,652 |
| 97 | 1900 | 65,647,660 | 7,592,170 | 4,519,900 | 3,072,270 | 1,304,275 | 1.14 | 1,352,615 | 1.20 | 2,656,890 | 2.34 | | 6.34 | | 4.00 | 2.34 | 108,681,443 |
| 123 | 1901 | 84,525,170 | 9,979,105 | 5,339,815 | 4,639,290 | 2,390,905 | 1.48 | 1,838,845 | 1.14 | 4,229,750 | 2.62 | | 5.92 | | 3.30 | 2.62 | 154,615,339 |
| | | | \$31,619,665 | \$16,963,090 | \$14,656,575 | \$6,591,160 | | \$5,950,820 | | \$12,541,980 | | | | | | | 430,476,615 |

CAPITAL INVESTED, 1902-03.

| | |
|--------------------------|---------------|
| 213 municipalities | \$117,087,050 |
| 157 companies | 107,800,995 |

OUTPUT IN KILOWATTS.

| | |
|--------------------------|-------------|
| 178 municipalities | 162,505,417 |
| 92 companies | 84,404,279 |

Dealing with the average capital outlay per kilowatt, for the past eight years, it is gratifying to notice that, whatever the system in vogue, the municipalities show much the better results. Thus in the case of alternating current plants the municipal cost is only \$460 per kilowatt, as against \$530 for the companies, whilst a comparison of direct current stations shows an outlay of \$445, against \$645; or, by grouping the whole of the stations together, the cost to municipalities is \$450, and of companies \$585. These figures cover a period of eight years, totalling altogether 829 returns, and in the case of the last year, extend over no less than 182 separate stations, and may, therefore, be taken as a pretty reliable estimate of the cost per kilowatt installed. They should satisfy the most rabid anti-municipalist that in electricity supply stations at least, local authorities obtain good value for the money spent.

Dealing with the relative cost of alternating and direct-current systems, it will be seen that in the case of municipalities the balance is in favor of direct current, whilst in the case of companies it is very strongly the other way.

COST OF PRODUCING 1,000 WATT HOUR IN 1901.

| | | Direct Current. | | Alternating. | | Total. |
|---------------|----|-----------------|----------------|--------------|----------------|----------|
| | | Stations. | Cost in Cents. | Stations. | Cost in Cents. | |
| Municipal ... | 78 | 4.2 | | 51 | 4.6 | 129 4.40 |
| Companies . | 34 | 4.18 | | 18 | 4.12 | 52 5.50 |

Taking the returns for eight years, with the exception of the first year, municipal stations show much lower costs all round than those of companies, the average of all the returns available being 5.50 cents per 1,000 watt hour, as against 6.6 cents, a saving of 1.1 cents per kilowatt hour.

Alternating current plants run by local authorities show an increased cost of production per kilowatt hour over direct current in the proportion of 6.2 cents to 4.8 cents, a difference of 1.4 cents in favor of direct current. In the case of company stations, both systems show the same results. By grouping all the returns together, a balance of 0.70 cents per kilowatt hour in favor of direct current is observed.

With a view to seeing how far it is possible to reduce the cost of production, without assuming any radical change in the present methods of generation, the following imaginary cost sheets are given. The first is obtained by taking the absolute lowest ascertained cost of each item, and combining same. The result is a total cost of 1.9 cents per kilowatt hour. The second table is one which is more likely to obtain in practice, and is made by taking the average of the ten lowest costs in each item and this gives a total of 2.82 cents per kilowatt hour.

TABLE I.—MINIMUM COST PER KILOWATT HOUR.

| | Cents. | Cents. |
|-------------------------------|--------|--------|
| St. Helen's—Coal | .52 | |
| Oldham—Stores | .04 | |
| Bradford—Wages | .18 | |
| Ealing—Repairs | .14 | |
| | — | .88 |
| Nottingham—Rent, etc. | .04 | |
| Stockport—Salaries, etc. | .16 | |
| | — | .20 |
| | — | 1.08 |
| Bootle—Interest | .44 | |
| Shoreditch—Sinking fund | .38 | |
| | — | .82 |
| | — | 1.90 |